Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author. To Smack or not to Smack, is that the Question? The Social Perspectives on the issue of Child Discipline held by a Cohort of Mothers in Aotearoa New Zealand and what they indicate

A thesis presented in partial fulfilment of the

requirements for the degree of

Doctor of Philosophy

Massey University, Palmerston North

New Zealand

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2015

Dedicated to:

Dr. Frederick Joseph Orr

ABSTRACT

The response to the legislative change in New Zealand that occurred in 2007 on the physical discipline of children precipitated more public submissions to the government than any other piece of legislation in New Zealand history. The debates over the Crimes (Substituted section 59) Amendment Act 2007 (formerly known as section 59 of the Crimes Act 1961) provided a social context for this study of what contributed to the intense national debates within academia, families, and public arenas over such issues as children's rights, parental rights, the socialisation of children, religion and the role of government. Parenting styles and the effectiveness and outcomes of smacking were a particular focus of much of this debate. This research was undertaken in the context of these debates, and established five research aims for a thesis that set out to explore the connections between mothers' viewpoints on physical discipline and the wider issues that surround the complex and often contradictory spaces where the physical discipline of children is debated and discussed. The first four aims were addressed through four detailed reviews of literature with the overall purpose of breaking down and laying out the complexity of the debates that underpin any understanding of child discipline. The first review highlighted definitional issues relevant to this thesis, and included statutory definitions where appropriate. The second review explored and outlined evidence from a wide range of literature that contextualised the issue of physical discipline in and through the legislative debates surrounding the Crimes (Substituted section 59) Amendment Act 2007 in New Zealand. The third review outlined conceptual frameworks through which issues of child socialisation and discipline are commonly explained in order to frame the previous legislative discussion from a different perspective. The fourth and final review piece examined the issue of physical discipline and its potential impact on children and their socialisation. The abductive nature of this research meant that there was recursive movement between the empirical research and the bodies of literature that surround the research question. For the purposes of presentation, the literature reviews are introduced at the outset whereas they were undertaken before, after and during the empirical Q work. The summation of insights from the literature reviews, however, set the scene for the final aim, to identify the social perspectives on the issue of child discipline held by a cohort of mothers in New Zealand. They provide context for further understanding the identified social perspectives on the issue of child discipline held by a cohort of mothers in New Zealand through the social perspectives that emerged. The substantive field work undertaken to ground the conceptual material outlined through the reviews explored the attitudes and beliefs of mothers towards physical discipline and sought to identify explanatory inferences that could be drawn from those social perspectives in relation to the sharp divide amongst mothers in New Zealand about the use of physical discipline when raising children. This thesis, both the reviews and the field work components, relied on abductive logic generally and the use of Q-methodology specifically to elicit the social perspectives from the cohort of mothers. These revealed perspectives were then read against a range of social theories including Bronfenbrenner's bio-ecological theory and attachment theory, amongst others. Two clear social perspectives were identified through the Q analysis: "a smack is more than a smack" and "a smack is nothing more than a smack". These viewpoints were explored in relation to the wider literature on physical discipline, which pointed to the grey area between physical discipline and child abuse. Many of the issues dealt with in the literature assume the importance of specific behaviours including such things as whether a child was smacked with the palm of the hand or an implement, either on the buttocks or near the face, the severity of the smack, the age of the child, the anger of the parent, how harsh or how many smacks and, sporadically, the context in which the smack took place. Traditionally, little attention has been given to the wider socialisation processes reflected through the attitudes and beliefs of the mother and her relationship with the child. It is argued in this thesis that: (1) conversations about the physical discipline of children need to shift from assumptions about what constitutes physical discipline to the establishment of a clear definition of physical discipline in order for useful research to be undertaken, and only once this is done, to (2) consider how a light smack may (or may not) impact on relationships with children, what it teaches (both parents and children) through socialisation processes about how to relate, and what such discipline indicates for intrapersonal and interpersonal relationships during times of frustration or conflict that arise when parenting. By providing a more nuanced study of this controversial issue, the findings from this research contribute to a more socially embedded understanding of parent child relationship and the thesis adds a new perspective to the existing literature on the physical discipline of children. Encouraging consideration of socialisation processes rather than the nature of ill-defined disciplinary behaviours have significant implications for social policy and family support development both nationally and internationally.

ACKNOWLEDGEMENTS

A project such as this relies not only on the researcher but also on the many others involved in that researcher's life. There are many people who have contributed to the completion of this thesis.

In particular, I wish to acknowledge the mothers who participated in the present study, for their willingness to share their attitudes and beliefs about such a controversial issue. Their contributions provided further understandings of what was beneath the impassioned debate over the smacking debates, and their honesty and openness is much appreciated.

The financial support from Massey University for the Massey Doctoral Scholarship was also much appreciated. The opportunity to focus on the research and writing was invaluable.

Thank you to: Dr. Mary Nash, for her wisdom, insight, and intellect, Dr. Jenny Coleman, whose keen intelligence along with her own depth of scholarship led me to an appreciation and respect of clear, elegant academic writing, Dr. Mary Eastham, who was the first to believe in this thesis and understood from the beginning what I wanted to explore, Dr. Martin Sullivan, whose considerable knowledge on the legislative aspects contributed yet another dimension to the overall thesis, Dr. David Bimler, who influenced my deeper understanding of Q-methodology, and last but certainly not least, Associate Professor Dr. Robin Peace, who had the most significant impact on the finalisation of this thesis. I am ever so grateful.

Dr. Fred Orr, my mentor for many years, facilitated the exploration of the more personal impact of the PhD as well as the implications of the research aims. The challenge to see myself as both a researcher and a writer, yet even more so, to have something to say and take up the space to say it, has been my own Everest. *Thank you, Fred.* There were many moments when you were truly the only one who believed this thesis would see the light of day.

Three quite different groups supported further learning and provided encouragement. The Writing Retreats for Academic Women held at the Tauhara Centre provided the opportunity to develop my own writing style through dedicated times to write with other women. The ethos of the group as facilitated by Dr. Barbara Grant of the University of Auckland provided a forum to not only improve as a writer but to enjoy the process while doing so. The FGR group provided a forum to process a wide range of doctoral concerns, so thank you to Kama Weir, Brent Gardiner, and Steve Lang. And thanks to the PANZ group, facilitated by Dr. Robyn Andrews, for providing ongoing opportunities for intellectual discussions and presentations.

I'd like to acknowledge the significant influence of Nan Blanchard, Sheena Hudson, Whitney Miller, Ron Paterson, Joan Ross, Janelle Sevier and Gwendolyn Teekell, for their close friendships and support. Conversations and sometimes brief exchanges with others at critical moments influenced this thesis in various ways - Arun Gandhi, Russ Hudson, Simon Nash, Rhonda Pritchard, Don Riso, Rachael Selby, Gaye Sutton and Sue Webb. A particular thank you to Karen Frewin who offered valuable feedback at the 11th hour. Comments, suggestions and support from other friends and colleagues are too numerous to mention here and are highly valued. Thanks to each of you.

Finally, to my family, what can I say...here I have just finished a thesis of thousands of words, yet no words feel adequate to express my gratitude. Edward Michael, you continue to amaze me with your way of being in the world and thanks to you life is already more than I ever thought possible. Katrina and Jackson, your childhood has been shaped around my work on this thesis, and although you were too young to realise it you have certainly been the inspiration for it. It seems as if you both have always been part of our lives, and your unexpected and very welcome arrivals have enriched my life beyond measure.

All parts of research presented here were fully approved by the Central Regional Ethics Committee Central (reference: CEN/07/12/082) and the Plunket Ethics Committee.

TABLE OF CONTENTS

ABSTRACT	ì
ACKNOWLEDGEMENTS	ü
TABLE OF CONTENTS	iii
APPENDICES	vi
FIGURES	vii
LIST OF ACRONYMS	viii
CHAPTER 1 - INTRODUCTION	1
BACKGROUND AND CONTEXT	2
MOTIVATIONS	
STRUCTURE OF THE THESIS	
CHAPTER 2 - DEFINITIONS	
Introduction	
STATUTORY AND NON-STATUTORY DEFINITIONS	16
VIOLENCE	
FAMILY VIOLENCE	
Child Abuse	
PSYCHOLOGICAL ABUSE AND NEGLECT	
New Zealand	
Physical Discipline	
DISCIPLINE	
CULTURE AND CONTEXT	
PREVALENCE DATA	
SUMMARY	
CHAPTER 3 - CONTEXT AND LEGISLATION	47
INTRODUCTION	
INTERNATIONAL TREATIES AND CONVENTIONS	
ARTICLE 19 OF CRC	
HOW BILLS BECOME LAW IN NEW ZEALAND	
FIRST STAGE TO REPEAL SECTION 59: THE INTRODUCTION	61
SECOND STAGE: FIRST READING	
THIRD STAGE: SELECT COMMITTEE STAGE	

THE FOURTH STAGE: THE SECOND READING	
THE FIFTH STAGE: THE COMMITTEE STAGE	66
The Sixth Stage: The Third and Final Reading / the Compromise	
THE SEVENTH STAGE: THE ROYAL ASSENT	
POLITICAL CONTEXT	
MEDIA DEBATES	
HISTORICAL AND SOCIAL CONTEXT	76
SUMMARY	79
CHAPTER 4 - ECOLOGICAL PERSPECTIVES	
INTRODUCTION	
BRONFENBRENNER'S BIO-ECOLOGICAL THEORY	
Attachment Theory	
THE VIOLENT MATRIX MODEL	
THE CULTURAL SPILLOVER THEORY	
Fanon	
SUMMARY	
CHAPTER 5 - PHYSICAL DISCIPLINE	
Introduction	
VIOLENCE AND THE SWEDISH MYTH	
EFFECTIVENESS AND OUTCOMES OF SMACKING	
PARENTING STYLES AND DISCIPLINE	
Context	
SUMMARY	
CHAPTER 6 - RESEARCH METHODOLOGY	
INTRODUCTION	
Q METHODOLOGY OVERVIEW	
Subjectivity	
Abductive Logic	
Q-SET DESIGN	
Development of the concourse.	
Development of the concourse for the present study	
Focus groups	
Identification of the Q-sets.	
Identification of the Q-sets for the present study	
The Q-sort	
The Q-sort for the present study.	
Semi-structured interviews.	
Semi-structured interviews for the present study	
Factor analysis.	
Factor analysis for the present study	

ETHICAL CONSIDERATIONS	156
PARTICIPANTS	159
LIMITATIONS	162
SUMMARY	164
CHAPTER 7 - FINDINGS	
INTRODUCTION	
FACTOR ONE: A SMACK IS MORE THAN A SMACK	166
FACTOR TWO: A SMACK IS NOTHING MORE THAN A SMACK	170
DISPARITY	
NEUTRAL POSITIONS	174
AGREEMENT AND DISAGREEMENT	
Analysis Issues	
SUMMARY	
CHAPTER 8 - DISCUSSION	
INTRODUCTION	
DEFINITIONAL ISSUES	
THE ROLE OF GOVERNMENT AND SOCIAL RESPONSIBILITY	
SOCIALISATION	
HUMAN RIGHTS LEGISLATION	
PRIMUM NON NOCERE	
SUMMARY	
CHAPTER 9 - CONCLUSIONS AND RECOMMENDATIONS	
INTRODUCTION	
RESEARCH CONTRIBUTION	
UNDERLYING ASSUMPTIONS	
IMPLICATIONS FOR POLICY AND PRACTICE	
STRENGTHS AND LIMITATIONS	
FURTHER RESEARCH	
SUMMARY	
CONCLUDING REMARKS	
EPILOGUE	
REFERENCES	

APPENDICES

Appendix A: Advertisement for Participants Appendix B: Information Sheet for Focus Groups Appendix C: Information Sheet for Q-sort Appendix D: Information Sheet for Interviews Appendix E: Consent Form for Focus Groups Appendix F: Consent Form for Q-sort Appendix G: Consent Form for Interviews Appendix H: Focus Group Instructions Appendix I: Q-sort Condition of Instruction Appendix J: Semi-Structured Interview Appendix K: Final List of Statements on Cards Appendix L: Focus Group Statements from Flip Charts Score Sheet for Researcher Appendix M: Appendix N: Domestic Violence Act 1995 Appendix O: Demographic Data for the Q-set Appendix P: PQ Analysis Appendix Q: Crib Sheet for Analysis

Figure 1	Bio-ecological model	86
Figure 2	Ecological model for understanding violence	88
Figure 3	Application of the bio-ecological model	93
Figure 4	An adaptation of the violent matrix model of violence	99
Figure 5	Example of Q-sort cards used in the current study	147
Figure 6	Q score sheet	149

LIST OF ACRONYMS

CARD	Child Abuse Related Deaths
CRC	United Nations Convention on the Rights of the Child
CYFS	Children, Youth and Family Services
CYPF	Children, Young Persons, and Their Families Act 1989
DMHDS	Dunedin Multidisciplinary Health and Development Study
DVA	Domestic Violence Act
ECHR	European Court of Human Rights
EPOCH	Ending Physical Punishment of Children
FC	Female Circumcision
FGC	Family Group Conferencing
FGC	Female Genital Cutting
FGM	Full Genital Manipulation
HDEC	Health and Disability Ethics Committee
HRB	Human Rights Based Approach
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IPV	Interpersonal Violence
KEEA	Kiwi Enuresis Encopresis Association
MSD	Ministry of Social Development
NGO	Non-Governmental Organization
NZAC	New Zealand Association of Counsellors
OHCHR	United Nations High Commissioner for Human Rights
OECD	Organization for Economic Co-operation and Development
PCA	Principal Components Analysis
RoC	Rights of Children or 'the Convention'
SES	Socioeconomic Status
SOPS	Supplementary Order Paper
UN	United Nations
UNCROC	United Nations Convention on the Rights of the Child
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

CHAPTER 1 - INTRODUCTION

Links between the socialisation of children, smacking and violence may seem farreaching. However, the international community through the auspices of the Committee on the Rights of the Child (2007) recently deemed that all smacking – however light – is not acceptable. Aotearoa New Zealand responded to the shifting international landscape relating to the use of corporal punishment within families through an amendment to section 59 of the Crimes Act 1961, now known as the Crimes (Substituted section 59) Amendment Act 2007. Section 59 provided "a statutory defence for adults prosecuted for assaulting a child if the assault was for the purpose of parental discipline" (Dittman, Sibley, & Farruggia, 2013, p. 67). One of the many consequences of such a decision brought individual attitudes and beliefs towards smacking into the public arena at the time of the legislative debates.

This research is an abductive study that seeks to further understand the social perspectives of a cohort of mothers in Aotearoa New Zealand on the physical discipline of children through wider issues of such as parental styles, bioecological frameworks, violence and socialisation of children. The substantial field of literature that is related to child maltreatment and the physical discipline of children are provided in order to provide a multi-disciplinary context for the social perspectives from the Q sorts to be read against.

This thesis retrospectively examines a specific body of evidence collected at the time of the legislative change with a view to exploring the connection between an individual (parent/caregiver) and all that happens before, after and in the moment in which a "smack" is administered for disciplinary purposes. It also seeks to uncover some of the assumptions made during the so-called "smacking debates" that smacking is violent or at least on the continuum of violence and suggests the potential to resituate at least some of the discussion about child discipline in a more relational and child/parent socialisation space than seemed possible at the time. This introductory chapter sets out the background and context of the inquiry, discusses what motivates the inquiry and outlines the structure of my argument. The chapter finishes with an outline of the content of the thesis.

Background and Context

The legislative change in 2007 on the physical discipline (also referred to as physical punishment) of children stirred a strong social response in New Zealand. The purpose of the present study is to identify the social perspectives of a cohort of mothers in New Zealand held at the time (2007-2008) towards physical discipline and violence, and to examine what those perspectives seemed to indicate in relation to smacking children at that time.

The family is acknowledged as one of the most violent social institutions (Scheper-Hughes, 2002; Straus, Gelles, & Steinmetz, 1980). The New Zealand Police Annual Report (2012) indicates an increase in child abuse (or child maltreatment) from approximately 4000 offences in 2011 to 5000 offences in 2012, and it is assumed there are many thousands of cases unreported to agencies. The following snapshot of statistics from the New Zealand Family Violence Clearinghouse Fact Sheets (2009) illustrates that the levels of reported violence in New Zealand are high, with as much as half of all violent crime in New Zealand attributed to family violence:

• family violence incidents and offences recorded where children were present (34,812 in 2007 and 36,450 in 2008);

- prosecutions for assault on a child (743 in 2007 and 863 in 2008);
- Child, Youth and Family¹ (received 71,927 notifications in 2006/2007 and 89,461 in 2007/2008);
- half of all murders in New Zealand are family violence related (28 of 53 murders in 2000 and 29 of 61 murders in 2005);
- Women's Refuge services and programmes (provided to 17,773 women and 12,161 children in the year 2005/06).

¹ Child, Youth and Family (CYFs) is a service provided by a New Zealand government agency whose purpose is to help protect children who are being abused or neglected.

In the Organization for Economic Co-operation and Development (OECD) countries, New Zealand reportedly has the third highest child homicide (the unlawful killing of a child 0 to 14 years) rate, following Mexico and the U.S.A. (Watson, 2003), and according to UNICEF (formerly the United Nations International Children's Emergency Fund, now referred to as the United Nations Children's Fund) has some of the highest rates of abuse and suicide in the developed world (UNICEF, 2003). The WHO (Krug, Dahlberg, Mercy, Zwi, & Loazno, 2002) and OECD (Pink, 2005) reports clearly indicate adult homicide as well as child homicide rates in New Zealand are high. The impact of such a high level of violence is not only physical and emotional, but also social, economic and political.

Susan Snively (1994) presented a comprehensive yet rough economic cost of violence in New Zealand over 10 years ago, and there has not been such an extensive review since. Although the costs are not easily measurable and estimates are difficult if not impossible to determine, Snively's estimate was \$1.2 to \$5.8 billion each year in New Zealand alone. The annual cost in the U.S.A. in 2007 for child abuse and neglect is estimated at \$103.8 billion (Wang & Holton, 2007). Such staggeringly high estimates of the direct and indirect cost of violence in dollar figures indicates a social problem that affects not only individuals and families but also society², and the substantial economic costs do not reflect the intangible impact on the quality of life for the victim(s).

New Zealand has identified family violence as a significant social issue, and there have been several attempts to address this matter on a national level. Over 20 years ago, "The Report of Ministerial Committee of Inquiry into Violence" (Roper, 1987) (commonly referred to as *The Roper Report*), maintained that up to 80% of all violence in New Zealand society took place in the home, and suggested a connection

² An example of a measurable financial cost in the U.S.A. for absenteeism (thus lost productivity) as a result of gunshot wounds was estimated in 1992 to be U.S.A. \$126 billion (Krug, Dahlberg, et al., 2002).

between family violence and violence in the community. The Roper Report (1987) found that children who are exposed to violence at home often become violent as adults, and recommended the development of more early childhood centres as a strategy to mitigate this effect. The aim was to expose children to socialisation other than the family home to help break the cycle of violence.

In March 2001, a review conducted by the Ministry of Social Development (MSD), "Care and Protection is about Adult Behaviour" (Brown, 2000) (commonly referred to as *The Brown Report*), emphasised the need for adults to take more responsibility for the safety and well-being of children. The major review, well-known in New Zealand, was a government response to a number of high-profile child murders and criticism of the child protection social work sector, aimed to offer a strategy to improve the services for children and young people exposed to child abuse and neglect. Emphasis was placed on the relationship between the child and the parents and the particular parenting style adopted. The Brown Report's explicit relational focus informed some of the initial thinking underpinning my argument for a shift away from the blunt focus on whether or not smacking is violent or on a continuum of violence to a broader understanding of what the controversial debates represented.

During the years 2002-06, government and non-government sectors, independent Crown entities, and the judiciary joined together to improve the way family violence was addressed in New Zealand. Three family violence strategies were established: The New Zealand Family Violence Prevention Strategy (*Te Rito*) in February 2002; The Care and Protection Blueprint (*The Blueprint*) in February 2003 (in response to a recommendation in the Brown Report); and The Taskforce for Action on Violence within Families (*The First Report*) in July 2006. The aim of the Taskforce was to consider collectively what to do about the violence in New Zealand and offer prevention programmes and education. One of the goals stated in *The First Report* (2006) was to address the attitudes, behaviours, and tolerance of violence in families and society and supported the view that "family violence is a critical and complex *social* issue. *It occurs in private, within close interpersonal relationships* [emphasis added]" (p. 33). The Taskforce, initially separate from and then viewed as the organisation to oversee The Blueprint and Te Rito, aimed to eliminate family violence through the combined efforts of government, non-government, the community and individuals. The Taskforce provided an update each year on the status of the initiatives and strategies under the auspices of their Ongoing Programme of Action. However, the assumption that *The Blueprint* and *Te Rito* actions were integrated into the Taskforce turned out not to be the case (Herbert, 2008a). In addition, there were misrepresentations on budgets allocated for violence that created the illusion that much more was being done for family violence than actually was. Ruth Herbert's (2008b) Master's thesis for Victoria University, titled Learning our Way Forward: Implementation of New Zealand's Family Violence Strategies, provides a full evaluation and status report on New Zealand efforts to reduce family violence with a detailed analysis of each of the government strategies initiated between 2002 and 2006. Herbert found that although strategies have been developed to address the family violence issues, many have not moved forward. She proposed that the reason many of the strategies set forth by government had not been implemented was that there was too much complexity, too many levels and definitions of violence, too many interconnected causes, and no national coordinating system to accommodate new initiatives and respond to recommended changes.

Separate to the Taskforce, yet coinciding with its development, was another coalition of people – community groups and non-government organisations – whose purpose was (and is) to work together to the promote the interests of New Zealand's children. Plunket, Barnardos, UNICEF, Save the Children, the Institute of Public Policy at the Auckland University of Technology (AUT) and over 5,000 individuals and 350 organisations supported the campaign launched in 2005 called *Every Child Counts*. The co-spokesperson for *Every Child Counts*, Dr. Emma Davies (2005), stresses that *"we cannot afford to continue to see children's issues as separate from, or secondary to, social problems of our nation* [emphasis added]" (p. 7). The interconnections between children, families and levels of wider social engagement, are fundamental to the current thesis and elaborated on through the use of Bronfenbrenner's ecological framework (see Chapter 4).

There are further initiatives that seek to work with the levels of violence in New Zealand. Such examples include the establishment of national programmes such as the *It's not OK Campaign, Ending Physical Punishment of Children* (EPOCH)³ and *Strategies with Kids – Information for Parents* (SKIP) (Sibly, 2010). Another initiative to help increase the visibility of children in the development of public policy is *Child Impact Reporting* (Hanna, Hassall, & Davies, 2006). In spite of the various programmes and organizations working with violence in New Zealand, the rates of child homicide remain high and explanations of the causal behaviours tentative (Duncanson, Smith, & Davies, 2009).

In contrast, the violence in Sweden, the first country to clearly prohibit all practices of physical punishment of children by parents and caregivers in 1979, has remained at a constantly low rate since the mid-1970s. The support for physical punishment declined significantly in the years before the change in legislation, and statistics indicate that no children in Sweden died as a result of child homicide between the years 1976-1990 (Durrant, 1999). Mike Doolan, formerly Chief Social Worker within the New Zealand government, analysed the data recorded by the New Zealand Police in cases of child homicide for the period 1991 to 2000 inclusive and found that New Zealand, with less than half the population of Sweden, had 91 of its 240 child homicides during that 10 year period attributed to child abuse (Doolan, 2004b). A further study of child injury mortality and homicide in New Zealand revealed that very young children are most at risk (Moore, 2005). In a national survey on the physical discipline of children by the Ministry of Justice with over 1000 participants (Carswell, 2001), 23% thought it was acceptable to physically discipline children under two 2 years old and 62% thought it was acceptable to physically discipline children 2 to 5 years old.

³ For a comprehensive account of EPOCH's involvement with section 59 and the review of the events that led to that legislative change, see *Unreasonable Force: New Zealand's Journey Towards Banning the Physical Punishment of Children* (Wood, Hassall, Hook, & Ludbrook, 2008). Beth Wood, one of the authors, was a co-founder of EPOCH in New Zealand in 1997.

The suggestion of any link between smacking and homicide is highly controversial and, at least in 2007-8, the jury was out. More recent evidence, however, suggests a more compelling link (see for example the 2014 Straus, Douglas & Medeiros publication *The Primordial Violence: Spanking Children, Psychological Development, Violence, and Crime.*

Not so contentious in the literature is the link between child maltreatment and homicide (Gil, 1975; Gilbert et al., 2009; Kadushin & Martin, 1981; Vanamo, Kauppi, Karkola, Merikanto, & Räsänen, 2001). While there is evidence that supports incidents of child abuse taking place within a punishment context (Durrant, 2006; Gershoff, 2002a; Vasta, 1982) others maintain that it is a tenuous connection (Forrester & Harwin, 2000; Trocmé & Lindsey, 1996). There are considerable incidents of homicide that specifically include drowning, suffocation or head injuries where, according to the coroner's reports, previous signs of physical abuse were found in fatally abused children (Vanamo et al., 2001).

That both smacking and child maltreatment may occur in the name of child discipline draws attention to the need for more rigorous definitions and understandings of violence and related concepts, more consistent international categories for each incident (Forrester & Harwin, 2000), clearer understandings of the continuum of violence,⁴ and better understandings of the socialisation of children.

In order to more fully address the complex issues involved with the aims of the current study, it was necessary to provide a substantial literature review to broadly scope physical discipline and related concepts in order to provide context for the

⁴ There are also studies on a continuum of destruction whereby initial acts that cause limited harm result in psychological changes that make further destructive actions possible (Maxwell, Anderson, & Olsen, 2001).

social perspectives of the mothers to be read against, and to identify what they indicate.

This, then, is a brief summary of the context in which this thesis has been undertaken. It is underpinned by my positionality and situatedness within this context and my motivations for the study.

Motivations

I am a Senior Tutor for the Massey University Counselling Programme, based in the city of Palmerston North in Aotearoa New Zealand. I am a trained counsellor and have been practising in this profession for over 20 years. Previous to this I was a secondary school teacher for over 10 years. I am accredited with the New Zealand Association of Counsellors (NZAC), the national accrediting body, and continue ethical supervision with certified and experienced counsellors. I have roots in the southern part of the United States, although for my formative years I lived in both Germany and Kentucky. I have lived and worked in New Zealand as a resident for 20 years and in Europe for eight years previous to that. I lived and worked in San Francisco for a couple of years whilst I obtained my Master's Degree at the University of San Francisco, a Jesuit University, and for a brief time I lived and worked in the shanty town of Kisumu, Kenya. I am acutely aware of cultural nuances, values, bias, prejudice and differences and actively seek to address the challenges these raise in my personal and professional life.

The study of physical discipline is both personal and professional. Based on lived experiences within my family of origin, my country of origin, and in the various cultural contexts I have encountered. I am interested in how violence is perceived, expressed and experienced through dissimilar circumstances and cultures and then manifested on individual, interpersonal and social levels. In beginning this research process, I studied literature on emotional intelligence, conflict, violence, nonviolence, ignorance, awareness, social change and social change agents. I browsed a wealth of well-known material that links the relationship between the individual and the social from authors such as Durkheim, Weber, Marx, Engels, Caspi, Elder, Moffitt, Bern and Silva, and considered the contributions of individualist thinkers such as Sartre, Kierkegaard, Kant, Thoreau, Lao Tzu, Nietzsche, and Emerson. However, it was Bourdieu's epilogue in the translated version of "The Weight of the World" (1999) where I found the following quote:

According to the Hippocratic tradition, true medicine begins with the knowledge of invisible illnesses; with the facts patients do not give, either because they are not aware of them or because they forget to mention them. The same holds true for social science, which is concerned with figuring out and understanding the true causes of the malaise that is expressed only through social signs that are difficult to interpret precisely because they seem so obvious. I am thinking of the outbreaks of senseless violence at sports events or elsewhere, about racist crimes, about the electoral success of the prophets of doom, eager to exploit and magnify the most primitive expressions of moral suffering that – as much as and more than by the poverty and the "Passive Violence" of economic and social structures—are produced by all the *small privations and muted violence of everyday life* [emphasis added] (p. 628).

Bourdieu's quote led me to the aims for the current research thesis. At the time I began this study, the intense national debates in New Zealand about whether or not smacking is violent were underway. If smacking was an example of "muted violence" what were the social signs that were difficult to interpret because they seemed so obvious? It seemed that an everyday social issue such as smacking would provide a social context to consider more broadly the issues that surround physical discipline. Much of the public and media debates not only linked smacking to violence or placed it firmly on the continuum of violence, but also criticized Christians, Samoans, and others who publicly and unashamedly smacked their children. Further fury was generated by those who did not want the New Zealand government to tell them how to raise their children. Children's rights, parental rights, the socialisation of children and parental styles were included in the debates.

While there is extensive and accepted evidence relating to the prevalence and harm of child abuse and neglect (Mardini, 2010; Mikton & Butchart, 2009; Miller-Perrin & Perrin, 2013; Zigler & Hall, 1989), the direct link between this evidence and

physical discipline – including smacking – came clearly into the New Zealand debates through the proposal of legislation that specifically included smacking. The legislative change proposed to remove the legal defence in New Zealand for parents who assaulted their children but escaped prosecution through the legal defence that it was for the purpose of parental discipline. Several high profile cases raised the public profile of the issue; however, the questions about any link between smacking and homicide remained unanswered. See, for example, *Physical Child Abuse in America: Past, Present, and Future* (Zigler & Hall, 1989). For a historical overview of child abuse, see *Societal Change and Change in Family Violence from 1975 to 1985 as Revealed by Two National Surveys* (Straus & Gelles, 1986).

I was keen to make sense of what was beneath the impassioned debates, and to find a way to hear what "ordinary New Zealand mothers" might have to say about it rather than respond to what was being reported in the media. I therefore decided to develop a way to identify the attitudes and beliefs held by a cohort of mothers toward the controversial issue of smacking children, and examine the ways such views might contribute to part of the "malaise expressed through social signs" to which Bourdieu referred in the above quote. When I started this research I did not have a strong opinion about the rightness or wrongness of the disciplinary method of smacking. If anything, now that I have completed the research, I am even less concerned about the impact of a light smack (with due consideration of such matters as context, parental styles, other disciplinary methods used, how often, and severity). What is of concern, however, are the more subtle implications of our attitudes and beliefs, often revealed through social issues, on how we manage anger and frustration within ourselves and in our relationships. The connection of an individual to all that happens before, after and in that moment of smacking needs further examination.

There are mothers known by the researcher who clearly care for their children, do not hesitate to smack them for disciplinary reasons, and are appalled to even consider that such a commonplace disciplinary tool might be in some way harmful or abusive to their child. As the social and political attention for the issue of smacking children grew with the possible change in legislation, so did my interest. Particular attention to the assumptions made during the public debates that smacking was violent or on the continuum of violence was noted. During the weeks before the legislative change, there were several debates that provided a social forum for a number of questions to emerge. Why was there such a strong public response to the smacking issue? What were the parental disciplinary styles of New Zealand mothers? Do disciplinary styles affect the mother-child relationship? What might the social perspectives held by New Zealand mothers reveal about smacking? How might New Zealand mothers connect their own attitudes and beliefs to the use of physical discipline – whether considered violent or not – and violence? What do New Zealand statistics for child abuse and child homicide indicate?

In the context of the child smacking issue there were five research aims for this thesis. The first four aims were addressed through four detailed reviews of literature with the overall purpose of breaking down and laying out the complexity of the debates that underpin understandings of child discipline. The first review highlighted definitional issues of terms relevant to this thesis, and included statutory definitions where appropriate. The second review explored and outlined evidence from a wide range of literature that contextualised the issue of physical discipline in and through the legislative debates surrounding the Crimes (Substituted section 59) Amendment Act 2007 in New Zealand. The third review outlined five conceptual frameworks through which issues of child socialisation and discipline are commonly explained in order to frame the previous legislative discussion from a different perspective. The fourth and final review piece examined, in detail, the issue of physical discipline and its potential impact on children and their socialisation. The abductive nature of this research meant that there was recursive movement between the empirical research and the bodies of literature that surround the research question. For the purposes of presentation, the literature reviews are introduced at the outset whereas they were undertaken before, after and during the empirical Q work. The summation of insights from the literature reviews, however, set the scene for the final aim, and provide context for further understandings.

The research question to facilitate the achievement of these aims was:

What are the social perspectives held by a cohort of mothers in New Zealand towards physical discipline, and what do they indicate?

Structure of the Thesis

The substantive field work undertaken to ground the conceptual material outlined through the reviews explored the attitudes and beliefs of mothers towards physical discipline and sought to identify explanatory inferences that could be drawn from those social perspectives in relation to the sharp divide amongst mothers in New Zealand about the use of physical discipline when raising children. This introductory chapter establishes the significant context for the study and outlines what motivated my curiosity to approach the use of smacking as a disciplinary (corrective) tool through attitudes and beliefs of a cohort of mothers in New Zealand. Chapters 2 through 5 review the literature and provide further contextual foundation.

Chapter 2, *Definitions*, examines terms related to the issues of violence, family violence, child abuse, physical discipline, and non-physical discipline. The latter part of this chapter gives particular emphasis to definitions or references to violence that is neither physical nor visible. These definitions have significant implications on how children are socialised through disciplinary practices. The distinctions in statutory definitions (and interpretations of those definitions) due to cultural and social mores and conceptual frameworks are further reflected in the diverse ways information is recorded. Changes in societal attitudes towards child discipline and violence reflect legislation and in turn, legislation reflects societal attitudes towards child discipline.

Chapter 3, *Context and Legislation*, includes the legislation and the legislative reform process in New Zealand as it aligns with the international legislation and Article 19 of the United Nations Convention of the Rights of the Child (CRC, also known as UNCROC, UNCRC, the Convention, Rights of Children (RoC), Convention or the Children's Convention). Historical, social and political context and the last minute compromise which emerged in the eventual legislation, submissions to the Select Committee in New Zealand and the media debates are also included.

Chapter 4, *Ecological Perspectives*, reviews the literature on ecological perspectives, broadly approaching the study of violence with five key theories and theorists that link the individual to the individual in relationship. The ecological theory provides a

significant paradigm shift (Belau, 2008; Scannapieco & Connell-Carrick, 2005) and a conceptual framework that acknowledges the link between the individual (or intrapersonal), relationships (or interpersonal), and extends the link to the social.

Chapter 5, *Physical Discipline*, reviews the pertinent literature on physical discipline as it was prior to 2010-12. It is considered a parent's responsibility to ensure children are given guidelines, experience consequences for their actions, and have limits set (Pritchard, 2006). A claim such as "no smacking equals no discipline" is an example of attitudes that exist in the debates on physical discipline, and make it necessary to examine different parenting styles. The literature on smacking includes discipline, punishment, and context as well as effectiveness and outcomes. Frustration, anger, and stress are also included. Where relevant, the Swedish experience with legislative change and attitudes and beliefs is also considered.

This thesis, both review and field work components, relied on abductive logic and Qmethodology to elicit the social perspectives from the cohort of mothers. These revealed perspectives were then read against a range of social theories including Bronfenbrenner's bio-ecological theory and attachment theory, amongst others. The next four chapters provide for the methodology, findings, discussion and conclusion.

Chapter 6, *Research Methodology*, outlines the ways in which focus groups, interviews and Q methodology were employed in the study. Q methodology (Q), the least familiar approach, examines how people subjectively think about an issue, and is useful when the underlying tensions of an issue are not well identified or understood. Q is particularly well suited for eliciting a range of perspectives or views on an issue that might otherwise not seem easily distinguished. Participants in a Q study sort statements that represent the discourse on the issue under study in terms of those they most agree with to those they most disagree with in order to surface a range of social perspectives. In the context of my research, Q methodology formed part of a multi-method approach that comprised both quantitative and qualitative methods. Methods, ethical considerations and participant selection are included in this chapter.

Chapter 7, *Findings*, presents the analysis. The findings highlight the underlying tensions that surround the smacking debates through the social perspectives that emerged through the analysis of the focus group, interview and Q data. Summaries of the two factors that emerged and the identification of statements with the greatest agreement, disagreement, and disparity are presented. Statements ranked in or near the 0 column are also considered, with contextual information and observations by the researcher included.

Chapter 8, *Discussion* explores the findings in relation to the wider literature on physical discipline which pointed to the grey area between physical discipline and child abuse. Many of the issues dealt with in the literature assume the importance of specific behaviours including such things as whether a child was smacked with the palm of the hand or an implement, either on the buttocks or near the face, the severity of the smack, the age of the child, the anger of the parent, how harsh or how many smacks and, sporadically, the context in which the smack took place.

Chapter 9, *Conclusions and Recommendations*, provides the overall review of this thesis. The research contribution, underlying assumptions, implications for policy and practice, strengths and limitations are included. Suggestions for further research and a final summary are also included.

The present study begins with the supposition that smacking is in response to the behaviour of a child for disciplinary reasons, and that parents want, in principle, what is best for their children. It is relevant at this point to reiterate that the focus for the present study is on the physical discipline of children, not on child abuse.

CHAPTER 2 - DEFINITIONS

Vague terms do not suddenly become clear when they are defined by reference to other vague terms. (Tamashasky, 2005, p. 129)

Introduction

Assumptions and understandings of physical discipline are divisive, and interpretations of statutory definitions vary widely. What one views as abusive or violent another might consider reasonable and justified parental discipline. The complex issue of why the physical discipline of children is such a major issue, not only a national level but also a global level, include a central concept in the present study, how violence and related concepts are defined and perceived. Both theory and practice must be clarified in the definitions. As per Bourdieu's quote in the previous chapter, to further complicate the definitional issues, Bourdieu (1999) infers that violence is often so integrated into everyday life it is difficult to recognise. Is it possible that the physical discipline of children is one of those behaviours that society does not recognize as violent due to its embedded nature in everyday disciplinary practice? Conversely, others would consider it absurd to link physical discipline with child abuse. The issue of smacking children and the Crimes (Substituted section 59) Amendment Act 2007 provide the social context for my consideration of these issues. The literature reviewed in this chapter ranges across violence, abuse and physical punishment with the purpose of surfacing the complex interplay between these concepts and terms as they have a bearing, both direct and indirect on the smacking debates. In rehearsing these issues at some length, I also lay the groundwork for understanding the complex context in which the field research is embedded.

The link between child abuse, violence and homicide is not controversial in the literature. What appears contentious is the suggestion that smacking a child is necessarily child abuse, violent, or on the continuum of violence. Given that New Zealand has such a high rate of child homicide and that as much as 80% of all violence happens in the home, an examination of physical discipline and any possible link between such physical discipline and child abuse or violence is reasonable.

The importance of clear definitions for any research is important. However, to meet the aims of the present study such definitions are not only essential, but comprise one of the main challenges in the research. Loose interpretation of definitions, assumptions about meanings and vague use of critical, including legal, terms have arisen in and through the complexities of the issues that surround the physical discipline of children. Examples of such issues include the need to consider matters such as context and culture. This chapter sets the stage for the thesis and establishes understandings of smacking within the wider context of violence. This is necessary not to impose the assumption that smacking is violent (although this is one of the

not to impose the assumption that smacking is violent (although this is one of the viewpoints encountered), but because much of the legislation and literature assumes either that it is or that it is not. In addition, ambiguous definitions and contrasting behaviours for the same terms contribute to confusion. Definitions – and the interpretations and assumptions of those definitions – are fundamental to the current study.

The purpose of this chapter is threefold: firstly, to provide definitions of violence, family violence, child abuse, physical discipline, and discipline, with statutory definitions included where relevant; secondly, to demonstrate that definitions and understandings of these complex social issues not only change but vary according to differing cultural and societal norms; and thirdly, to highlight the effect statutory and non-statutory definitions have on the gathering of statistical data on violence.

Statutory and Non-Statutory Definitions

What is considered acceptable physical discipline and what is considered child abuse may vary in an organisation, jurisdiction, or from culture to culture, family to family, and sometimes even within the same family. When legislation is linked with violence and its related concepts, there are often statutory, or legal, definitions and interpretations that are passed by Parliament and included as part of the legislation itself. The common law interpretations that evolve from previous rulings by judges on existing legislation in specific cases still allow for uncertainty, and even where statutory definitions do exist, they are left to further interpretation by the courts.

According to Ringer (1991):

Statutes are passed by Parliament, but they must be interpreted in the courts. In the Acts Interpretation Act 1924, Parliament has given general instructions on interpretation of statute law. It also gives specific instructions within some individual Acts. There is nonetheless room for ambiguity and there are still areas of society outside the scope of detailed legislation, where the decisions of the courts are the only guidance of the law. (p. 216)

The significance of statutory definitions for the issue of physical discipline of children is highlighted in the legislation that came into force on 21 June 2007 in New Zealand. Intense national debates ensued both in Parliament and from the public with a response unparalleled in New Zealand history. The Crimes (Substituted section 59) Amendment Act 2007, formerly the Crimes (Abolition of Force as a Justification for Child Discipline) Amendment Bill, is the widely controversial amendment that removed from the New Zealand's *Crimes Act 1961*, the statutory defence of reasonable force (also referred to as acceptable force) for parents, or person(s) in place of parents,⁵ to discipline a child. It was the interpretation of reasonable force that was highly contentious as the legislation provided a legal loophole for parents to severely physically punish or abuse their child in the name of discipline. It is not that harsh physical punishment was viewed as acceptable, per se, but rather a defendant needed to prove that whatever force used was reasonable and for the purpose of disciplinary correction. Decisions were left to juries to determine what was considered reasonable force.

Various cases were brought before the New Zealand courts that involved section 59 of the *Crimes Act 1961* defence (Austin, 2010). Juries were also left to decide whether or not the disciplinary actions used on a child were because the parent was

⁵ When parents are mentioned from this point assume person(s) in place of parents are also included.

provoked, in contrast to the fact provocation is not available as a defence in assault cases involving adult perpetrators and victims. Incidents that included use of implements, bruising and harm, if found reasonable under the circumstances, were dismissed in court. The removal of the defence of reasonable force sent a strong message that violence towards children is not acceptable. In the Hansard debates (transcripts of the debates in the New Zealand Parliamentary Chamber), Katherine Rich commented (Hansard Debates 16 May 2007, 639 NZPD 9285):

One of the things that struck me as being really surprising throughout the whole debate about the bill was that in many cases the debate went off-track. This bill was really about removing the defence of section 59, which was used when some parents who had beaten their kids within an inch of their lives ... a number of cases in particular really made many New Zealanders wonder about the rights of parents and the sort of country we live in ... we are lowering the bar considerably. We are saying goodbye to horsewhips, jug cords, hosepipes, vacuum cleaners, pieces of wood, and all sorts of other implements that have been regularly used on children in the name of discipline.

The legislation influenced a major social change that included parental control and discipline. Since legislation and statutory definitions change and evolve, as do non-statutory definitions, assumptions about what is meant by particular definitions often reflect attitudes and beliefs and serve to muddle clarity. This is true in relation to what is understood to constitute violence. Although the intent of the change in legislation was to remove the legal loophole for parents who abused in the name of discipline, one of the central disagreements discussed in New Zealand for the Crimes (Substituted section 59) Amendment Act 2007 involved assumptions and beliefs about whether or not smacking is violent or on the continuum of violence. Distinctions between the more severe forms of physical discipline and light smacking are generally not clear in statutory definitions even to this day, and the police are often left to interpret behaviours, with their own assumptions and understandings, in order to implement the legislation. Krauss (2006) suggests that a clear discourse about violence cannot even proceed without definition, yet it is not only the statutory definitions on the national level that are unclear.

Violence

The Human Rights Committee maintains that the challenge for national and international legislation is to contain definitions that are neither too narrow nor in fact too nebulous to be useful (Gallant, 2009). Legislation often assumes that the interpretation of an act will be approached with common sense and ordinary meanings (Ringer, 1991). Even where statutory definitions do exist, interpretations of the law contribute to misperceptions and assumptions, in particular with respect to culture and context. The most extensive existing summary of international research to date on the prevalence of violence, The World Report on Violence and Health⁶ (Krug, Dahlberg, et al., 2002), estimates that 1.6 million people died from violence in 2000 with almost half of these deaths suicides, a third homicides, and a fifth warrelated. Such statistics are staggering. To exacerbate the complexities that surround the pervasiveness of violence, there are historical and cultural changes to consider. For example, with the radical change in war tactics since the early twentieth century, 90% of today's war casualties are civilians, not soldiers (Roberts, 2010). Cultural and social differences are indicated through the wide variations in violence between countries, which signifies the influence of attitudes and beliefs as to what is considered "acceptable" violence. For example, people aged 15-44 years from lowto-middle income countries experience twice the rate of violent death than high income countries (Krug, Dahlberg, et al., 2002). Rates of mortality for intentional injury range from about 4 per 100,000 in Greece and Kuwait to over 50 per 100,000 in Colombia and El Salvador (Coope & Theobald, 2006).

Social, cultural and individual perceptions towards violence continue to change and evolve. The historical definition of violence confined to the narrow context of the infliction of physical pain that resulted in intentional injury is no longer accepted (Loseke, Gelles, & Cavanaugh, 2005), and, world-wide and in New Zealand society,

⁶ This is the most recent. The WHO will soon begin a new version of this report (personal communication, 20 February 2012).

conceptualisations and definitions of violence continue to expand. Traditional definitions of violence predominantly focus on a particular group such as women, children, or ethnic minorities (Connolly, 2004c), and consideration of context. The Ritchies, well known New Zealand, University of Waikato, researchers in the study of violence over four decades propose the significance of social context as well as the act itself in their understanding of violence:

In most cases, violence is thought of as a physical act ... but we will spread the definition much wider to include threats, psychological assaults, and the violence wrought by institutions on individuals or groups of individuals. Sometimes the act of violation is clear, hard and forceful, committed with quite conscious and deliberate intent, but often, only the victim is really aware that violence has occurred – and sometimes, not until late. But in our view, a violent act is a violent act, whether intended or unintended, whether conscious or unconscious, whether direct or hidden, whether physical or psychological. (Ritchie & Ritchie, 1993, p. 7)

How violence is understood influences how it is defined and conceptualized, and is an important issue that not only impacts the way it is responded to (Itzin, 2000; Loseke et al., 2005) but potentially influences the way policy and practice are formed (Itzin, 2000). Social changes at the grass roots level such as child rearing practices are affected by how violence is defined and understood in its broadest terms. The conceptual understanding of violence (and its related terms) is significant for the present study.

The 1996 definition of violence established by the WHO marks a significant shift in understandings and interpretations of violence with the introduction of an international statutory definition. The WHO, as the coordinating authority for health within the United Nations (UN), sets norms and standards on global health matters as one of its core responsibilities. In 1996, the Forty-Ninth World Health Assembly adopted Resolution WHA49.25, which noted the dramatic worldwide increase in the incidence of intentional injuries affecting all people, but particularly women and children (WHO, 1996). Violence was declared a major international public health issue, and Member States of WHO agreed to urgently consider the problem of

violence within their own countries. According to Krauss (2005), the intent was to draw the attention of an international audience and to present a plan of action for progress toward violence prevention. As a result, a peer-reviewed report, the *WHO Global Consultation on Violence and Health* (1996) was published – constructing the definition of violence as part of the larger report. The statutory definition agreed upon by WHO in 1996 was:

[Violence is] the use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation. (Krug, Mercy, Dahlberg, & Zwi, 2002, p. 3)

The WHO report was credible and considered in its development. It represented comments and contributions from over 160 experts from more than 70 countries, with regional consultations held in Africa, the Americas, Asia, Europe, and the Middle East (de Rivera, 2004a; Galtung, 2003). Even though one of the many difficulties involved with definitions is how broad or narrow they need to be to establish meaning, the WHO definition was considered purposely broad enough to cross cultures, yet specific enough to serve as a basis for concrete action (Krug, Mercy, et al., 2002). It is generally agreed that overbroad definitions make it difficult to interpret whether actions are actually illegal or not (Tamashasky, 2005).

According to Malley-Morrison and Hines (2004) the broader the definition, the greater the likelihood of a larger number of people potentially able to receive support services due to abusive incidents. In spite of the criticisms over whether or not the WHO definition was too broad to be useful (Krauss, 2006), the Member States of WHO took the position that the attempt to define and understand violence may contribute to a way of reducing violence (WHO, 1996). WHO facilitates efforts to more deeply understand violence and, as a result, potentially large vulnerable populations (for example, women and children) often targeted for violence, may be offered moral and institutional protection through public services at the grass roots level (Krauss, 2005).

Six years later at another major international WHO symposium in 2002, continued concern about the increase in violence world-wide led the UN to decisively agree to increase violence prevention. WHO revised the 1996 definition as part of *The World Report on Violence and Health* (Krug, Mercy, et al., 2002) and included an updated definition of violence in which 'intent' was highlighted as:

The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation. (pg. 5)

Adding the concept of intent into the definition of violence introduces further complexity, and creates questions about who determines intention and on what basis are such determinations made (Gil, 1975; Krauss, 2005). Emphasis on intentionality (in contrast to unintended events that result in injury or death) is nebulous and creates opportunities for confusion. For example, incidents of serious child abuse that result in death, may lead to exoneration of the abuser if they claim that the death of the child was not intended. The implications, including cultural implications, are significant in determining whether or not behaviours may or may not be intended as violent. Whether the focus is on the behaviour or on the intention, quite different outcomes may be reached. The Ritchies (1993) maintain that, in the New Zealand context, less importance is placed on the notion of intentionality and more on the consequences of the violent behaviour.

Another important distinction from traditional understandings of violence is the inclusion of the word power. The inclusion of the phrase "use of physical force or power" (p. 3) in the WHO (1996 and 2002) definitions of violence covers a broad range of outcomes which include all physical, sexual and psychological abuse as well as neglect, suicide and other abusive acts. According to the authors of the WHO report (Krug, Dahlberg, et al., 2002), the last part of the WHO definition that refers to injury, psychological harm, etc. includes self-directed harm, interpersonal and collective violence. Mike Doolan, former Chief Social Worker in the New Zealand government, maintains the contentious inclusion of the word power broadens the traditional understanding of violence to include such acts as threats, intimidation, and psychological harm (Doolan, 2004a).

The consideration of power and the control of others points to an imbalance which is often evident in the context of family violence (Walters & Parke, 1964; Weber, 2002). Relationships considered more equal are less likely to experience such violent behaviours (Pence & Paymar, 1993). Ellen Pence, a social activist in Minnesota and one of the original organisers of the Duluth Domestic Abuse Intervention Project, or the Duluth Model, suggests abusive behaviour indicates a power imbalance. The development of the Duluth Model followed a particularly brutal domestic homicide as a way to try to rehabilitate men who had been arrested for violence in domestic matters. The Duluth Model is now used internationally with emphasis on power a major part of rehabilitation programmes.

The decision by WHO to provide a statutory definition of violence on an international level is significant, and has support from the growing Human Rights movement. Not only is violence now considered an issue of global concern by an international organization, but by an organisation with the moral force and institutional resources necessary to contribute to prevention efforts (Krauss, 2005). It is accepted that definitions at the international level have an effect on policy and legislation at the grass roots level.

The influence of the law to change attitudes is one of the motivational foundations of Human Rights legislation (McMaster, 2004). Even so, although legal changes can significantly influence social patterns, if they are too far ahead of attitudes and beliefs held by a society they may be evaded or ignored (Doolan, 2004b). Changes in legislation are often linked with what society deems as necessary and appropriate ways to respond to violence. For example, two years before the Domestic Violence Act (DVA) legislation was passed in 1995, a public advertising campaign endorsed by the New Zealand police, touted slogans such as "Not Just a Domestic" and "Family Violence is a Crime – Call for Help" (Connolly, 2004a).

A further approach to the definition of violence is provided through Jamil Salmi's (1993) framework of violence. Salmi, an education economist, provides a broad definition and his is useful as a way to systematically analyse different forms of violence in societies. Salmi invokes a process to try to establish patterns of interconnection and relationship between wider social, historical, and political

structures (Salmi, 2000). He defines violence as any act that "threatens a person's physical or psychological integrity" (p. 2) and classifies violence into four main categories: direct, indirect, repressive and alienating, although overlap may occur between one or more of these categories. Direct violence includes physical acts such as murder, torture, and homicide - acts that result in deliberate injury and death, and is the one most often referred to when people talk or write about violence. The last three classifications are relevant to the discussion on the physical punishment of children. Indirect violence refers to violence by omission and reflects human choices that affect the natural or social environment such as poverty, hunger, and disease. Repressive violence includes all human rights violations, such as the denial of freedom of religion, speech, or thought. Alienating violence affects an individual's integrity, and includes such "ism's" as racism, disablism, and sexism. Included in alienating violence is the effect on psychological, emotional, intellectual or cultural integrity (Salmi, 2000).

Given that definitions and interpretations change and evolve over time (Dahlbrg & Krug, 2006; Doolan, 2004b; Emerson, 1999), and that the understandings of what constitutes violence are often reflected in legislation, the terminology and debates about which behaviours are acceptable and unacceptable and which vary in different countries continues. Ongoing research contributes to these changes in definitions. For example, neurobiological research, employing the use of magnetic resonance imaging (MRIs) to provide detailed brain scans as part of assessing individuals, found that harsh physical discipline affects the development of the part of the brain regions critical for self-awareness and internal monitoring of our behaviours, thus has the potential to contribute to the early development of psychopathology (Tomoda et al., 2009). Another study on 848 adults with no history of physical abuse supports the hypothesis that verbal abuse alone affects the brain structure, and increases anger, hostility, dissociation, and depression (Teicher, Samson, Sheu, Polcari, & McGreenery, 2010). Such research continues to broaden considerations of the impact of physical punishment of children and how this might be viewed. Although there has been remarkable conceptual change in understandings of violence due to the scholarly and public attention surrounding the topic (Loseke et al., 2005), the range and depth of information available on violence still provides no accepted, complete definition of this complex phenomenon (Doolan, 2004b;

Kingston & Penhale, 1995). Even if a particular definition was to be considered acceptable in both statutory and non-statutory agencies (such as the WHO definition of violence), interpretations vary widely, particularly with respect to cultural understandings. Understandings of family violence have also shifted significantly over the last 30 years.

Family Violence

What constitutes family violence continues to broaden and change. During the 1980s, dominant discourses on violence did not include family violence, violence against women, or child abuse (Krauss, 2005; Lentz, 1999; Zigler, 2006). The seminal work of Straus, Gelles, and Steinmetz (1980), a major American research team working in the area of domestic violence, examined violence within families. Their formative research, based on a definition of violence that emphasised behaviour rather than intent, and published in the book *Behind Closed Doors: Violence in the American Family* in 1980, was controversial. Their seven year study of over 2000 families drew attention to the possibility that people hitting one another in their own families might be considered an act of violence.

In places such as the USA, Britain, Australia and New Zealand prior to the 1980s, domestic violence was categorised as a private, domestic matter. It took considerable shifts in attitudes to move ideas of violence within the family away from being a private, normal part of family life, categorised as "just a domestic" (McMaster, 2004) and into the public domain. Parents hitting their children or husbands and wives slapping one another in the heat of an argument were considered normal aspects of family life (Loseke et al., 2005). During the New Zealand Census (2005), 21% of New Zealand men admitted that they physically abused their female partners in the previous year. Violence against women in families largely remained invisible and social workers commonly overlooked any links between wife abuse and child abuse during child protection investigations (Kelly, 1994). As late as the 1970s police often did not respond to calls for "domestics" (Loseke et al., 2005). However, this is no longer the case. Changes in how violence is perceived reflect changes in attitudes which in turn become integrated into the language we use. How violence is referred to often reflect how it is understood, with evolving social understandings of what constitutes violence continuing to intersect with changes in legislation.

It is widely acknowledged that the shift in attitudes towards family violence is related to second wave feminism. Authors, speakers and activists from the feminist movements of the late 1960s to the early 1990s moved understandings of domestic violence from the private to the public arena, and introduced terminology for domestic violence in response to the problem of all forms of family violence (Straka & Montminy, 2006). A significant contribution of feminist theory and practice has been to find the vocabulary to reflect experiences that previously were invisible. The commonplace social definition of concepts such as "just a domestic" required new terminology such as "spousal abuse" before its reference to violence could be fully understood (Gaspard, 2005). Terms such as interpersonal violence, marital violence, woman abuse, domestic violence, and partner abuse, are various other names for domestic violence and violence against women (Dobash & Dobash, 1992).

Other examples of changes include the broadened terminology and extension of types of family violence. Current family violence legislation includes statutory definitions for domestic violence (referred to as interpersonal violence), child abuse and neglect, parental and sibling abuse, and more recently, elder abuse and neglect (Crichton-Hill, 2004). Similarly there are distinctions made between child discipline and child abuse (Donnelly & Straus, 2005). The term survivor is now frequently used instead of victim (Itzin, 2000).

The redefinition of rape in New Zealand to include sexual violence within marriage resulted from dramatic reforms to the statutory definition of rape. Until a major amendment in 1985 to the *Crimes Act 1961*, rape within marriage was not considered a crime (Crimes Amendment Act (No. 3) 1985 (1985 No 160), section 59.2). In various cultures for many years women and children have been, and in some places still are, considered the possessions of men (Crichton-Hill, 2004; Malley-Morrison & Hines, 2004). Until 1986, rape within marriage in New Zealand was not considered a legal offence because it was understood that women gave men their consent to sex when they married (Connolly, 2004b; Kelly, 1994). Such a change is an example of the link between cultural and social behaviours, and how legislation often reflects what are considered acceptable behaviours. The ongoing and significant contributions of the women's movement increased awareness about abusive behaviours, and links with changes in the legislation.

Ten years later, the Domestic Violence Act (DVA) 1995 in New Zealand provided another example of changing attitudes towards family violence through a statutory definition. In 1995, just before the new DVA legislation was submitted as a bill to Parliament, psychological (emotional) abuse was included in the definition (S. James, personal communication, April 5, 2007) and is now widely recognized socially and legally. The impact and usefulness of the domestic violence legislation continues to be evaluated (Maxwell et al., 2001), and there is frequent overlap with statutory and non-statutory definitions. For example, the statutory definition for domestic violence in The Domestic Violence Act (DVA) ("Domestic Violence Act 1995 No 86 (as at 01 July 2010), Public Act," 2010) is as follows:

Meaning of "domestic violence"

(1) In this Act, domestic violence, in relation to any person, means violence against that person by any other person with whom that person is, or has been, in a domestic relationship.

(2) In this section, violence means—

- (a) Physical abuse:
- (b) Sexual abuse:
- (c) Psychological abuse, including, but not limited to,—
 - (i) Intimidation:
 - (ii) Harassment:
 - (iii) Damage to property:
 - (iv) Threats of physical abuse, sexual abuse, or psychological abuse:
 - (v) In relation to a child, abuse of the kind set out in subsection (3) of this section.

(3) Without limiting subsection (2)(c) of this section, a person psychologically abuses a child if that person—

(a) Causes or allows the child to see or hear the physical, sexual, or psychological abuse of a person with whom the child has a domestic relationship; or

(b) Puts the child, or allows the child to be put, at real risk of seeing or hearing that abuse occurring;—

but the person who suffers that abuse is not regarded, for the purposes of this subsection, as having caused or allowed the child to see or hear the abuse, or, as the case may be, as having put the child, or allowed the child to be put, at risk of seeing or hearing the abuse.

(4) Without limiting subsection (2) of this section,—

(a) A single act may amount to abuse for the purposes of that subsection:

(b) A number of acts that form part of a pattern of behaviour may amount to abuse for that purpose, even though some or all of those acts, when viewed in isolation, may appear to be minor or trivial.

(5) Behaviour may be psychological abuse for the purposes of subsection (2)(c) of this section which does not involve actual or threatened physical or sexual abuse.

Clearly consistent with the statutory definition for domestic violence, note the inclusion of the terms psychological and emotional in the following non statutory definition of Family Violence currently recognized by the Ministry of Social Development (2002) in New Zealand:

Family violence covers a broad range of controlling behaviours, commonly of a physical, sexual, and/or psychological nature which typically involve fear, intimidation and emotional deprivation. It occurs within a variety of close interpersonal relationships, such as between partners, partners and children, siblings, and in other relationships where significant others are not part of the physical household but are part of the family and/or are fulfilling the function of family. Family/whanau includes spouse/partner abuse and child abuse/neglect and is consistent with the definition of "violence" in the Domestic Violence Act 1995. (p. 8)

Violence is now viewed as broader than only the physical infliction of pain, which is often both obvious and measurable. Spousal or partner abuse throughout the family violence literature now also includes violence against children (Connolly & Doolan, 2007b). The DVA (see section 2(c)(v) above) now includes as violence that which occurs if a child is allowed to hear or see the physical or psychological abuse perpetrated against others. Child abuse definitions, legislation, and social awareness have grown significantly during the last 50 years, with definitions of family violence and child abuse often overlapping.

Child Abuse

The statutory definition for child abuse on an international level through CRC now deems a light smack as unacceptable and violent or on the continuum of violence. Assumptions about what is inferred and understood with terms are critical and distinctions between child abuse and physical discipline must be robust. Several high profile incidents in New Zealand such as Lillybing, the Kahui twins, Nia Glassie, and James Whakaruru are tragic incidents that most would agree fit with understandings of child abuse (Watson, 2012). Although there are variations of interpretations and cultural distinctions, most will agree that child abuse is violent (Itzin, 2000; McMaster, 2004).

For the purposes of the present study, child abuse, child maltreatment and illtreatment of a child will be assumed equivalent. Although this is not controversial in the literature, it, too, sometimes creates confusion. According to the statutory definition by WHO (2010), child maltreatment:

Constitutes all forms of negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power. (p.15)

Some definitions are intentionally quite broad. For example, the Children, Young Persons, and Their Families Act 1989 (CYPF) definition of child abuse corresponds with Malley-Morrison and Hines (2004) that is "any act that compromises a child's optimal development" (p. 4). Fitting with such a broad definition of child abuse, Steinmetz and Straus (1974) agree that child abuse includes psychological, physical or sexual abuse, intimidation, harassment, and damage to personal property, but extends that to violence in the home that is also a potential risk to children. The early work of Kempe and colleagues (1962) refer to child abuse as serious physical abuse, that may or may not lead to death, and may or may not be in a disciplinary context.

Akin to the international statutory definition of child maltreatment above by WHO, the New Zealand CYPF definition, and the DVA definition, it is now considered child abuse if a child witnesses violence in the home, even if he/she is not directly physically abused. The recognition that a child may be harmed by witnessing violence indicates how much social awareness has changed. Examples of the scope of what is considered child abuse now include any act that compromises a child's well-being or dignity through emotional, physical, sexual or potential harm or neglect. Scholars continue to debate various definitions of child abuse (Bugental et al., 2010; Malley-Morrison & Hines, 2004; Radford et al., 2011; Slep, Heyman, & Snarr, 2011; Trickett, Mennen, Kim, & Sang, 2009).

Psychological Abuse and Neglect

Psychological abuse and neglect may seem unrelated to the purposes of the present study, which is to identify the social perspectives held by a cohort of mothers in New Zealand and what that indicates. However, a closer look at definitions is critical to illustrate the broadening understandings of how violence is understood. According to WHO (2006) psychological or emotional abuse is commonly defined as:

A pattern of failure over time on the part of a parent or caregiver to provide a developmentally appropriate and supportive environment. Acts in this category may have a high probability of damaging the child's physical or mental health, or its physical, mental, spiritual, moral or social development. Abuse of this type includes: the restriction of movement; patterns of belittling, blaming, threatening, frightening, discriminating against or ridiculing; and other non-physical forms of rejection or hostile treatment. (p.10)

Considered the most common type of child maltreatment on a global level, WHO (1999) defines neglect as:

The failure to provide for the development of the child in all spheres: health, education, emotional development, nutrition, shelter and safe living conditions, in the context of resources reasonably available to the family or caretakers, and causes or has a high probability of causing harm to the child's health or physical, mental, spiritual, moral or social development. (p.15)

New Zealand

According to the New Zealand Census (2005), four to ten per cent of New Zealand children experience physical abuse, with an average of seven to nine deaths per year (see also Martin & Pritchard, 2010). The aim of the Children Young Persons and their Families Act 1989 (the CYPF Act) is to provide for the care and protection of children in New Zealand. The CYPF Act (1989) currently defines child abuse as: "the harming (whether physically, emotionally, or sexually), ill-treatment, abuse, neglect or deprivation of any child or young person" (p.28).

Emphasis on the effect that unclear terms have on the interpretation and definition of legislation continues. The CYPF Act (1989) provides a further example with its use of nebulous terms such as "ill-treatment, abuse, neglect and deprivation" that all have a wide range of interpretation, and as a result create confusion (Connolly, 2004a).

Yet another example is the reference to fatal child abuse. According to Somander and Rammer (1991), fatal child abuse is "abuse that leads to death, occurs within the family, and the victims are up to three years old" (p. 53), with the "additional prerequisite that the motive is a disciplinary measure to eliminate a disturbing behavior [sic] of a child without the intention to kill" (p. 53). In some of the literature on fatal child abuse, the definition includes children up to the age of 4 (Krug, Dahlberg, et al., 2002). New Zealand research indicates that more often the victims of fatal child abuse are children under one 1-year-old, and that children under 4 years of age experience twice as much fatal child abuse as those aged 5 to 14 (Connolly & Doolan, 2007a). Other inconsistencies in the literature on fatal child abuse include that it is a result of a death of a child when discipline (or rather the parent attempting to address the unwanted behaviour of a child) was a factor, while for others fatal child abuse is any kind of child abuse.

There are numerous such examples of vague and nebulous terms in statutory and non-statutory definitions of child maltreatment and related terms. To exacerbate definitional issues even further, additional terms are sometimes introduced to the definition. The increasing inclusion of neglect, for example, in the definition of violence and child abuse includes such areas as physical, emotional, and medical neglect, and may include not only an act of commission but an act of omission (Horwath, 2007). Mardini's (2010) summary of the ambiguities in definitions of child neglect in New Zealand further highlight the breadth and persistence of confusion.

The legislation prior to the Crimes (Substituted section 59) Amendment Act 2007 in New Zealand falls into this grey zone. The judges, juries and police were (and still are to some extent as discussed in the next chapter) in the position of deciding how to interpret behaviour in view of the legislation. The wide range of behaviours considered acceptable as physical punishment of a child varied significantly, not just amongst the police but with jurors as well. Reliance on the jury system and their subjective opinions on what constituted reasonable force was a source of great division. There are numerous examples of cases where section 59 was successfully argued in jury trials to acquit parents who abused their children with various objects such as a bamboo stick, a belt, a hosepipe, or a piece of wood (Ripoll-Núñez & Rohner, 2006). What became known as a "legal loophole" became possible largely as a result of vague definitions in the legislation that maintained that parents, or person(s) in place of parents, had the right to use "reasonable" force to discipline children. The loose interpretation of reasonableness in the previous legislation allowed behaviours that are now deemed unacceptable by the Court of Appeal, the High Court, and the Family Court Judges.

Generally, most societies do not condone child abuse (Zigler & Hall, 1989) or child homicide, and New Zealand is no exception.⁷ To move closer towards one of the aims of the present study, further distinctions between child abuse and physical discipline are needed. Although child abuse is often easily identifiable with physical harm that involves anything from broken bones to red marks from a slap, it is less identifiable with harsh pinching, starvation, yelling, and not easily identifiable at all when related to a child who witnesses violence in the home. It is with the vague or unverifiable aspects of the definitions of child abuse that the consideration of physical discipline begins.

Physical Discipline

The distinction between the effects of physical discipline and child abuse is a recent phenomenon, and there are few longitudinal studies thus far. As mentioned previously, it is only in about the last 30 years that hitting in one's own family is considered violent (Straus et al., 2014). Researchers frequently focus on the prevalence of physical punishment than its effects, and even then light smacking is often not distinguished from the harsher forms of physical discipline. As a result, although it may seem superfluous to focus on aspects of the definitions of child abuse, it is in fact critical to acknowledge assumptions, semantics and interpretation due to the indistinguishable area between child abuse and physical discipline often referred to as the "grey zone" (Carswell, 2001; Pears & Capaldi, 2001; Whipple &

⁷ However, for a counter view, see *Chapter 1: History and Definitions of Child Maltreatment* (Miller-Perrin & Perrin, 2013).

Richey, 1997). The grey zone is accompanied by fundamental issues that include severity and frequency, context and parental styles, and significantly contribute to the understanding and/or inference of whether or not smacking is violent or on a continuum of violence.

In 2007 the Ministry of Social Development in New Zealand commissioned a report on Family Violence to support the work of the Taskforce for Action on Violence within Families (see Chapter 1). The report included physical discipline and physical abuse of children, and suggests that the:

Physical discipline of children can be conceptualised as occurring within the context of a continuum of behaviours that extend from occasional light smacks to frequent, harsh physical beatings. On this continuum, the line between discipline and abuse is not always clear. (Lievore & Mayhew, 2007, p. 42)

With respect to the issue of physical discipline, the wide inclusion criteria with reference to what, precisely, the behaviour consists of as well as different interpretations for the same terms, confounds the issues. Broad assumptions are reflected in the research outcomes, debates, cultural and religious differences, legislation, and interpretations of the literature. Definitions and terminology for physical punishment are often varied. In addition, countries use different terms for similar behaviours. For example, smacking in New Zealand is the equivalent of spanking in the U.S.A., whereas "spanking" in a New Zealand context would generally be regarded as more severe and prolonged than smacking.

Key researchers in the field have different definitions and terminology for physical discipline (Baumrind, 1966a; Gershoff, 2002a; Straus, 1994). Variances include that physical *punishment* is any physical force, and that may include the hitting of other parts besides the buttocks or extremities, that causes pain but no (evidence of) physical harm directed for the correction or discipline of a child. There are many other terms used to refer to a smack that does not cause physical pain and are considered, by some, harmless to children. These terms include non-abusive spanking, a slap, mild smacking, sub abusive violence (Benjet & Kazdin, 2003; Graziano, Hamblen, & Plante, 1996); ordinary physical punishment (Baumrind,

Larzelere, & Cowan, 2002); customary physical discipline and non-abusive smacking (Knox, 2010; Straus, 2000); customary physical punishment (Larzelere, 2000); and normative spanking (Baumrind et al., 2002). Benjet and Kazdin (2003) found that the following terms are a few used in relation to discussions about child discipline and child abuse: physical punishment, physical abuse, corporal punishment, discipline, slapping, harsh punishment, and punitive parenting.

Other researchers suggest physical punishment may consist of hitting a child with an instrument such as a switch, belt or strap (McCabe, Clark, & Barnett, 1999) or of hitting, shaking, pushing, shoving, throwing, putting the child in a cold bath or putting a hand or object over the child's mouth (Graham, 1996). When an instrument is used instead of a hand, the smacking becomes a paddling, caning, whipping, birching or belting. That these definitions are harsher than Shmueli's (2008) definition of physical punishment outlined later in this chapter further illustrates the inherent confusion across various conceptual frameworks and operational definitions.

A significant finding in the review of the literature on smacking, however, is that from a methodological viewpoint, questionnaires, surveys or interviews frequently do not include a specific definition. Studies more often than not allow respondents to define physical punishment as they see appropriate (Grogan-Kaylor & Otis, 2007). Much of the research often begins with a particular assumption by the researcher about the disciplinary behaviours that includes anything from a light smack on the bottom to a thrashing, thus the outcomes are considerably biased. Even with a specific definition of physical discipline that consists of a light smack, there is no distinction in the literature between a single, short sharp smack and many. For example, one section in the national survey on attitudes towards violence within families, held in New Zealand in 2008 through the Ministry of Social Development, consists of questions about justifications for smacking children (McLaren, 2010). The 2,444 respondents were invited to agree or disagree with justifications for smacking children under various scenarios. The highest percentage, 51%, agreed it was okay to smack if a child was about to run across a busy road. The survey, clearly on violence within families, invited responses about smacking. Such inclusion presents a snapshot of assumptions made with reference to smacking, and

whether or not it is violent or on the continuum of violence. Whether such a potential bias is perceived or actual, it contributes to the limitations of any study on smacking and indicates one of the difficulties when discussing the issues that surround the physical discipline of children.

Corporal punishment includes hitting children with a hand or an implement (such as a belt or wooden spoon), and other forms of corporal punishment include: kicking, shaking, biting and forcing a child to stay in uncomfortable positions (United Nations Committee on the Rights of the Child, 2006). Corporal punishment is often viewed as the use of physical force towards a child for the purpose of control and/or correction, and as a disciplinary penalty inflicted on the body with the intention of causing some degree of pain or discomfort. Punishment of this nature is referred to in several ways, for example: hitting, smacking, spanking, and belting (Cashmore & de Haas, 1995). The U.S.A. refers to corporal punishment more often than New Zealand, with New Zealand using the term physical punishment more often outside of the school context (Pollock, 2013). However, corporal punishment, often used loosely and broadly, may include physical punishment, but may also include physical force at all levels of severity. Physical discipline often refers to less harsh disciplinary methods than physical or corporal punishment, although this distinction is often not made.

Although the terms physical discipline and physical punishment are still considered synonymous by many, there is a growing trend to refer to physical "discipline" rather than physical "punishment". Mindful of the semantics, the present study employs the use of physical discipline more often than physical punishment, although the terms are frequently interchangeable. Physical punishment is often associated with a punitive parental style and implies a slightly harsher smack. Given this shift in terminology is a recent phenomenon, much of the research and discussion still refers to physical punishment.

In New Zealand, smacking – assumed light – is more commonly referred to than physical discipline, physical punishment or corporal punishment. Physical discipline (or the "softer" term of smacking), physical punishment, and corporal punishment are examples of the various and contrasting assumptions that often lead to contradictory and sometimes opposing findings in the literature (Baumrind et al., 2002; Gershoff, 2002a).

The definition of physical discipline for the present study, often referred to in New Zealand literature, is:

The hitting [sic] of a child by his parents or educators for the sake of his education, usually with a light blow on the buttocks or hand – a slap, smack, blow, pat, or swat – because the child has misbehaved or not complied with their wishes and their instructions and did not accept their authority. (Shmueli, 2008, p. 191)

It is clear from the discussion thus far that understandings about the physical discipline of children are wide-ranging. Although it is necessary to consider physical discipline within a wider context, clarification of how smacking is defined and understood is fundamental for the purposes of the present study. From this point discussions on smacking follow the definition by Shmueli (2008) mentioned above; a smack is a light blow on the buttocks or hand in response to a child's misbehaviour for disciplinary reasons. This is neither one <u>hard</u> smack nor many, and it does not fall within any of the previous definitions of child abuse. If the desired outcome of physical discipline is child compliance with adult directives (Smith, Gollop, Taylor, & Marshall, 2005) then the objective for a smack, always presumably disciplinary, needs consideration. Do note that "educators" is included in this definition which is intended for caregivers such as grandparents or family, rather than teachers.

Discipline

Given that the present study assumes that the reason for smacking a child in the first place is to discipline a child for (perceived) misbehaviour, notable by its absence in the copious literature on the physical punishment of children is any reference to discipline. Distinctions about whether a smack is for guidance or punishment connects with the parental style (see Chapter 5) and leads to the need to further clarify what discipline consists of as well as what it means.

From a linguistic perspective, the *Collins English Dictionary and Thesaurus* (2006) indicates that the origin of the word discipline is traceable to the Latin *discere*, "to learn" (p. 332) and that discipline includes "to improve or attempt to improve the

behaviour, orderliness, etc., of by training, conditions or rules... "to punish or correct" (p.332). The definition of discipline employed for the WHO (2006) and UNICEF (2010) reports, citing Butchart, Phinney, Mian and Fürniss (1992), will be assumed for the purposes of the present study:

Discipline for children involves training and helping them develop judgement, a sense of boundaries, self-control, self-sufficiency and positive social conduct Positive strategies of discipline recognize children's individual worth. They aim to strengthen children's belief in themselves and their ability to behave appropriately, and to build positive relationships. (p.12)

There are further refinements to definitions on the discipline of children. Holden (2002) makes a clear distinction between discipline and punishment, and maintains that discipline involves not only teaching and guiding children to behave appropriately but also how to relate to the world around them. He suggests this is done by making children aware of acceptable and unacceptable behaviours and emphasises teaching and learning the consequences of actions.

Many defenders of physical discipline infer that no physical punishment means no discipline (Baumrind et al., 2002; Benjet & Kazdin, 2003; Fuller, 2009; Garbarino, 2005; Gil, 1971; Harrold-Claesson, 2006; Vygotsky, 1978). Such a fundamental belief, that no physical punishment means no discipline, also referred to as the pro corporal punishment position (Benjet & Kazdin, 2003) (or, to put it in colloquial terms "spare the rod, spoil the child"), is one of the divisive points on smacking. For example, Fuller (2009) suggests that without physical discipline, young people do not learn when to stop dangerous behaviour or how to deal with limits. Others who defend the use of smacking for disciplinary reasons have similar responses. Ruby

Harrold-Claesson was invited to New Zealand in 2006 by Family Integrity⁸ during the time of great public interest and debates on the physical punishment of children. Harrold-Claesson (2006), an internationally known human-rights lawyer in Sweden, is a strong advocate for smacking and claims that smacking children is not harmful. She maintains that smacking is an effective disciplinary tool when used by responsible parents, when words and admonitions are not enough to make a child change an unacceptable behaviour. Her stance is that the removal of the right for parents to smack their children undermines families and parental authority and as a result, parents fear their children.

Other viewpoints, similar to those held by Harrold-Claesson, include that smacking is thought to teach respect for authority and that no smacking leads to insufficient discipline, disrespectful children and uncontrolled behaviours (Benjet & Kazdin, 2003). Baumrind (2001) concurs and insists that to ignore the misbehaviour of children has negative consequences and risks depriving them of maturity. Burke, Herron and Barnes (2006), authors of a popular book on parenting, *Common Sense* Parenting: Using your Head as well as your Heart to Raise School-Aged Children, now in its third edition, agree that children need to learn that misbehaviour has negative consequences if they are to function well in society. The discipline of children means different things to different people. Nonetheless, even the strongest advocates to ban smacking will agree that smacking can make a child compliant, and arguments about whether a smack works is not a major controversial point in the literature. It is agreed in the literature that a smack is often an effective way to have a child stop whatever (perceived) misbehaviour is causing the problem, at least for a short time. How that smack may be experienced by the child is frequently influenced by culture and context.

⁸ According to their own website, "**Family Integrity** is an informal association of families and individuals from all walks of life who are opposed to unjustifiable government interference in family matters" (http://familyintegrity.org.nz/about-us/).

Culture and Context

The consideration of culture and context directly links with attention to Human Rights or, as they are often considered separately, Children's Rights. The Human Rights Based Approach (HRB) recognises every individual as a right-holder, and aims to address the well-being and dignity of all humans. Children's rights include the right to well-being and dignity with respect to development, safety and health. With respect to culture, Comments for Article 19 of the Convention on the Rights of the Child advocates in Paragraph 26:

When the Committee on the Rights of the Child has raised eliminating corporal punishment with certain States during the examination of their reports, governmental representatives have sometimes suggested that some level of "reasonable" or "moderate" corporal punishment can be justified as in the "best interests" of the childBut interpretation of a child's best interests must be consistent with the whole Convention, including the obligation to protect children from all forms of violence and the requirement to give due weight to the child's views; it cannot be used to justify practices, including corporal punishment and other forms of cruel or degrading punishment, which conflict with the child's human dignity and right to physical integrity. (p. 7)

Opposing interpretations of what is in the best interests of the child range from a total ban on physical discipline to the belief that the use of physical discipline is an appropriate and effective parenting strategy. Interpretation is totally determined by ideology, and in practice, interpretation of corporal punishment, and whether or not it is abuse, is determined by the legal system (Reid, 2006). Other indications of the best interests of the child focus on the relationship between the child and the parent and how that is expressed through the parental style adopted (as per the Brown Report mentioned in the Introduction).

Emphasis on the child's human dignity and the right to physical integrity is highly influential in the determination of the Committee to take a strong position on the inclusion of light smacking within the definition of corporal punishment mentioned above. Because culture matters, multiple factors that include attitudes, beliefs and behaviours towards violence, abuse and discipline are of great significance (Carlson, 2005). However, the approval of attitudes and beliefs implicit in definitions is often

controversial and potentially emotionally charged (Donnelly & Straus, 2005), with culturally bound assumptions that inevitably overlap with moral evaluations (Blaiklock et al., 2002). Amongst the cultural behaviours creating the greatest contention are those regarded as acceptable by some cultures and violent acts by another (Moser, 2004).

Analogous to the issue of smacking children are other cultural behaviours that also create controversy in the Human Rights arena. An example of a practice that illustrates the influence of culture with respect to what comprises violence is female genital mutilation (FGM) (Shweder, 2000). FGM, also termed female circumcision (FC) and female genital cutting (FGC), is considered extremely violent not only by many Western cultures, but by women within these cultures (see, for example El Saadawi (2007); Rahman & Toubia (2000); Toubia & Sharief, (2003)), where the behaviours are deemed violent by some and culturally acceptable by others. FGM is a traditional social practice that involves the cutting of parts of the external genitalia of girls or young women and holds a place for the rite of passage to womanhood and is seen to curb or discipline women's sexual desires. More than 25 African countries and some Asian communities partake of this cultural practice. More than 130 million women alive today have experienced some form of FGM (Toubia & Sharief, 2003). Although found to be embedded in the social structures and gender power relations of sexuality and reproduction (Toubia & Sharief, 2003), FGM is considered by some a traditional, responsible, non-abusive act.

The complexity of cultural experiences are critical (Shweder, 2000). There are other cultural examples that portray behaviours deemed violent by other cultures: foot binding amongst the Chinese (abandoned in the early 20th Century), the less well known, breast ironing in Cameroon, and the beating of women within Muslim marriage. These are not just cultural or religious issues; they are examples of behaviours that are considered socially accepted by some and indicative of violent actions by others.

Another illustration of differences in cultural mores even within the same country is the current CYPF Act in New Zealand, where historical and political context significantly influenced the formation of the legislation. The aim of the CYPF act is to provide for the care and protection of children in New Zealand, and operates on the principle that, where possible, the primary role in caring for and protecting a child or young person lies with the family. The law originally allowed for the separation of children from their families if it was deemed that they were in need of care or protection (Keddell, 2007). That law was challenged by Māori who claimed the Act promoted institutional racism by separating Māori children from their families. Subsequently, it was with the integration of aspects of Māori culture, in particular the role of the family/whanau and cultural identity, that the legislation was shaped (Keddell, 2007).

Definitions and interpretations of violence are particularly challenged when social mores seem to affect children, often through particular cultural or religious beliefs. Different messages within the context of a smack – and whether a child is raised to be "God-fearing" versus "hitting is wrong" – add to the complexities of definitions and interpretations.

Historical and political context influenced the formation of the international statutory definition of violence by WHO in 1996. However, international definitions are not always viewed favourably. The aim to define violence as it relates to the health or well-being of individuals led some to criticise WHO for being culturally specific (Krauss, 2005) with a focus on a public health model for all cultures. Other critics concur, and maintain that the role of a public health model as appropriate for understanding and treating violence across cultures is assumptive (Donnelly & Straus, 2005). Cultural variants in conceptualisations of violence and abuse must be acknowledged, with intention and consequence also crucial to the debates about violence with regard to cultural differences (Loseke et al., 2005). The influence of colonisation on socialisation processes, not within the scope of the present study, contributes to such differences, yet of note here is that there are significant cultural differences that contribute to the challenges for legislation with respect to interpretations of how violence is manifested.

The task to define and interpret statutory and non-statutory national and international definitions for violence, family violence, child abuse and physical discipline contributes to the effort to ascertain whether smacking is violent or on the continuum

of violence. Specific categories and criteria to record data often reflect cultural and social mores. As a result, statistical information – which is in turn based on definitions and cultural understandings – on issues related to child maltreatment between and within countries is difficult and complex (Mardini, 2010; Miller-Perrin & Perrin, 2013).

Prevalence Data

It is generally accepted that much of the information on the assault of children represents only a small proportion of the total physical abuse cases with much child abuse substantially underreported (Connolly, 2004c; Hodgkin & Newell, 2007; Knox, 2010; Krug, Mercy, et al., 2002; Malley-Morrison & Hines, 2004). Child death by homicide or neglect is possibly under-reported by as much as 50 to 60% (Herman-Giddens, 2001). Attempts to gather and interpret statistical data to identify the prevalence of physical discipline, child abuse, and violence are complicated not only for reasons of definitions, but counting and coding as well. A major UNICEF (2003) study that attempted an international analysis of child homicide states that "inconsistencies of classification and a lack of common definitions and research methodologies means [sic] that little internationally comparable data exist and that the extent of child maltreatment is almost certainly under-represented by the statistics" (p.2).

Possible reasons for the underreporting of abuse include that the parent or caregiver may claim the injuries were accidental, or the injuries could be internal and not visible or serious enough to need medical attention. The WHO (2010) reports that many child deaths are falsely attributed to drowning, falls or burns. Deaths classified as a result of accident or sudden infant death syndrome might be reclassified if the truth of a situation were known. It is noted by researchers that there is a lack of serious data collection on family violence in New Zealand (Fenrich & Contesse, 2009; Herbert, 2008a).

Various names refer to child homicide such as infanticide, death from maltreatment, manslaughter and murder (Andriessen, 2006). Somander and Rammer (1991), in their in-depth study of the years 1971-1980 before the physical discipline ban on the child homicides in Sweden, specifically investigated child deaths in Sweden that resulted from the use of physical force to stop a child's misbehaviour (rather than

child deaths due to suffocation, drowning, post-natal depression, etc.). They found that, even with the complexity of the issues involved, the stimulus for the assault was often some behaviour of the child (for example, crying or toileting). Another indepth study in Sweden by Nordlund and Temrin (2007) analysed 200 cases of parental child homicides over a 35 year period from 1965-1999, and found that the majority of child homicides did not occur due to escalating child abuse, rather were linked to the conflict between parents, aggression, alcoholism, and mental disorders.

Although the establishment of the WHO statutory definition for violence in 1996 made it possible to begin the attempt to compile statistics internationally to examine the nature of violence (Krug, Mercy, et al., 2002), there are a number of rather significant distinctions on how violence is further defined and measured across nations. Classifications of violence in New Zealand differ considerably from other countries. In a Ministry of Justice Report in New Zealand (Segessenmann, 2002) several distinctions on the reporting of violence were made. For example, in the United States and Canada all violent crimes involve force or the threat of force, and minor assaults, intimidation and threats are not counted in their statistical recording of crimes. In contrast, approximately half of all violent crimes in New Zealand involve minor assaults, intimidation and threats and are counted in the statistical recording of crimes. To further demonstrate this point, in Australia, if an individual is indecently assaulted and then raped, only one count of sexual assault is recorded, whereas in New Zealand, this would count for two sexual assault offences. In New Zealand the number of offences as opposed to the number of victims are counted (Hughes, 2004) regardless of how many offences were committed by the same individual. This is not the case for all countries where, depending on the type of crime, multiple crimes of the same type or occurring within the same incident may be recorded as one crime (Segessenmann, 2002).

There are also diverse categories for coding. Sexual offences are included with violent crime in Australia, the U.S.A., Canada, England and Wales, whereas in New Zealand they are counted separately. The Australian definition of homicide or assault does not include attempted murder, and the crime rates are counted in terms of the number of victims rather than the number of offences (Segessenmann, 2002). Another instance of coding difficulty may be an infant death classified as sudden

infant death syndrome when clinicians actually suspected homicide. An example of the effect of coding on statistics is one study in New Zealand by Doolan (2005), who found that due to official hospital discharge data for 1988, 24 cases of child abuse were missed. Another New Zealand study found that in 1991, child abuse deaths had also not been classified correctly (Keddell, 2007). Such examples of inconsistent coding contribute to the difficulty in identifying the number of New Zealand cases of child abuse and deaths attributed to child abuse.

In addition to the specific differences between New Zealand and other countries in the reporting of violent incidents, statistical variance may occur for a number of other reasons. Some examples include inconsistent information about the context, frequency, severity, and intention of behaviours (Lievore & Mayhew, 2007), or the age at which one is considered an adult (Hughes, 2004). Denial is frequently a main reason statistics are so difficult to obtain in situations of abuse (UNICEF, 2003). Other factors that may complicate statistical interpretations include difficulty in filling out forms in a crisis situation (Hodgkin & Newell, 2007) or the sensitive nature of violence which may contribute to a lack of clarity (Pritchard, 1992). Race and class bias may also affect how a smack is classified (Hodgkin & Newell, 2007).

Ethnicity and culture contribute to further disparities in statistics. Acceptable or unacceptable behaviours are reflected in the various attitudes and beliefs between and within cultures (Blaiklock et al., 2002), and within the same cultural group there may be discrepancies. For example, many women often do not consider themselves victims of violence and often minimise the seriousness of such behaviour even though their experiences fit a formal definition of violence (Loseke et al., 2005). A further illustration of this occurs with cultural practices that may accept family violence, tend not to seek help outside the family (Koloti & Sharma, 2005), and are not likely to report to police or other authorities (Crichton-Hill, 2001). These individuals may not be fully represented in statistics.

The various and complex reasons that contribute to the inconsistencies in statistical information are many. Child homicide comparisons between countries are difficult due to the various descriptions and differences that describe the nature of violence. Obviously, it is important not to rely solely on statistics for information about the

nature and extent of interpersonal violence. What is known is that while the collection of data has improved with the WHO definition of violence and the OECD collection of data, there is still much work to be done to obtain accurate and useful statistics to further understand the nature and scope of interpersonal violence in New Zealand (Connolly, 2004c). Often legislation determines what clarification is needed, and it is the legislation that in turn affects the collection of data. Further clarifications and definitions of violence may include whether it relies on intention or consequence, and whether it is conscious or unconscious (Miller, 2002). This is specifically vital if international legislation is going to continue to grow with respect to children's rights and increase its influence on national and cultural mores.

Summary

This chapter highlights some of the complexities involved with discussions on the physical punishment of children insofar as definitional issues and prevalence data are concerned. Statutory and non-statutory national and international definitions influence the definitions of violence, family violence, child abuse, physical discipline and discipline. The definitions change and evolve, and understandings about whether a behaviour such as smacking children is deemed violent, if it is intentional or unintentional, conscious or unconscious, or is, in fact, a measurable behaviour at all, contribute to an already complex phenomenon. The possibility that smacking falls under the social or structural violence (Bourdieu, 2001) embedded into everyday practices and routines and thus is difficult to recognise and measure, as per Bourdieu's quote in Chapter 1, also bears consideration.

Not only must cultural and social mores be considered, but the lack of clear and consistent definitions to determine prevalence data has a significant impact on current and future research to advance understandings about the physical discipline of children. The historical, social, cultural and political context and the debates involved with the controversial and changing legislation through the legislative reform process contributes to the understanding of the complex variables for the strong social response on the issue of smacking children and leads to further understanding of what the attitudes might indicate. Regardless of one's understandings of the terms, most will agree that the actual numbers of recorded statistics are only the tip of a much bigger iceberg of unidentified or unreported cases. Until fairly recently, views on discipline and punishment and how they affect

children (or not) were mainly decided within individual families and communities. Changes in international definitions and legislation through the growing Human Rights movement have had a significant impact on discussions about whether or not smacking is an acceptable way to discipline a child. That a child's best interests, right to human dignity and physical integrity are now included in international interpretations and definitions of violence leads to the need to further understand how such an international treaty as CRC links with the national legislative reform process and the historical, social and political context of the New Zealand smacking legislation.

CHAPTER 3 - CONTEXT and LEGISLATION

People often feel strongly about public policy. As a nation we are sometimes described as politically apathetic, but dig beneath the surface and even those who profess to have no interest whatsoever in politics will express a view (sometimes well-informed and sometimes not, but invariably forcefully!) on the state of the economy, the benefit system, the Treaty of Waitangi, or whatever the issue of the day happens to be.

That is because public policy is about values, and is often deeply normative. Look closely enough and any policy will reflect its promoters' views about the way things should be. Policies also embody assumptions about things on which virtually all of us have something to say: what governments should get involved in, or stay well clear of, and the rights and duties of individuals, families/whanau, and communities. (Shaw & Eichbaum, 2011, p. ix)

Introduction

The response to the legislative change on the physical discipline of children in New Zealand that occurred in 2007 precipitated more public submissions to the government than any other piece of legislation in New Zealand history (Wood et al., 2008). Such a strong public response calls for a careful look at the legislation and context because, as Shaw and Eichbaum (2005) suggest, policy is about values, assumptions, and norms. The disparity between the overall intention of the legislative change (which was to remove the legal loophole for parents to claim a section 59 defence when accused of assault of a child) and the public perception of the legislative change (which was many-sided, and included human rights, the role of government, and whether or not a smack is violent or on a continuum of violence) was considerable. That the legislative change also aimed to prohibit physical punishment by teachers and parents at schools and resulted in the 2007 amendment to section 139A of the Education Act 1989 is less well known (see the *Corporal Punishment of Children in New Zealand* report (2014)).

The purpose of this chapter is to examine the legislation related to the physical discipline of children through a broad overview of international treaties and conventions, specifically Article 19 of CRC. New Zealand's ratification of CRC leads to a review of the legislative reform process in New Zealand, and how that process was followed for the Crimes (Substituted section 59) Amendment Act 2007. The political, historical and social context that includes the last minute compromise that emerged in the eventual change in legislation and a review of the media debates is also included.

International Treaties and Conventions

The relationship of national legislation to international treaties is not always clear. Although it is understood that the political and cultural context affects decisions and influences the implementation of international legislation (Ringer, 1991), both the ethical and moral foundations for the growing human rights movement established by the UN (Reading et al., 2009) and globalisation increasingly affect the shape of New Zealand's constitution (Shaw & Eichbaum, 2011). Weiss and Freedman (2013) compare the United Nations Charter (the foundational treaty for the United Nations) to the Russian "matryoshka dolls"⁹, with successive documents generated one after the other with each document involving a smaller scope than the one before (p. 486). Parallel to that is the evolving nature of the Human Rights Treaties, with interpretations of the legislation that become more and more focussed. Weiss and Freedman also suggest that "The notion of a supreme law that confers on individuals rights transcending those found in the codes of laws of their nations is a constant theme running through the writings of all major cultures for the past 2500 years" (p. 485).

On a national level, the system of government in New Zealand consists of three branches of government known for their separation of powers: the Parliament, the Executive, and the Courts. The Parliament (legislature) debates and passes the laws, the Executive (the Governor-General, all Ministers of the Crown and government departments and agencies) proposes and implements legislation, and Judges and the Judiciary (courts) interpret the meaning of the law. In summary, Parliament makes the laws, the Government administers the laws, and the judiciary (the Courts) interprets the laws. According to *The New Zealand Guide to International Law and its Sources: Report 34* (1996) (a particularly useful resource to understand international law published by the New Zealand Law Commission), it is the concept of the separation of powers that explains why Parliament is able to change domestic

⁹ Matryoshka dolls are Russian nesting dolls, decreasing in size and placed one inside the other.

law in New Zealand and the Executive is not. Included in the separation of powers are the various responsibilities that range from the decision to implement an international policy obligation to the creation and interpretation of the law. While there is no constitutional separation of powers in New Zealand through a separate upper and lower House, for example, the three branches of government provide a check and balance system of sorts. However, according to Ringer (1991) the real power is with Parliament as it has the power to make laws.

The agency that manages international treaties in New Zealand is The Ministry of Foreign Affairs and Trade. Every six months the Ministry publishes a list of all treaties New Zealand is currently involved with at various stages such as negotiation, amending, or ratifying. In 1996 approximately 25% of all current Acts in New Zealand were connected to international treaties and agreements (*A New Zealand guide to international law and its sources: Report 34*, 1996), and in 2012 New Zealand was associated with approximately 1600 international treaties ("*International Treaty Making*…", 2012). The impact of globalisation provides a challenge for nations to respond "within their own cultural, historical and political domains" (Hudson & Lowe, 2009, p. 26). The influence of international statutes continues to increase, and countries agree to laws and norms set forth by organisations such as the UN.

CRC, originally known as the children's rights treaty, is the first international human rights instrument to call explicitly for the prevention of all forms of violence against children (United Nations High Commissioner for Human Rights (OHCHR), 1990) and is the most widely ratified human rights treaty to date. CRC is one of the key catalysts for the changes in children's rights and sets standards in family, cultural and social life. What makes Article 19 of CRC significant in the discussion on the physical punishment of children is twofold. Firstly, CRC (which New Zealand ratified in 1993) has assumed an increasingly directive role since it was adopted by

the United Nations General Assembly on 20 November 1989; and secondly, of the various relevant UN Human Rights treaties that condemns child physical abuse,¹⁰ only CRC specifically mentions the physical *discipline* of children and now mandates the light smacking of children as unacceptable. The need for a separate declaration for children's rights, rather than children fitting under the principles of the Universal Declaration of Human Rights, bears noting, with implicit inferences about how children are viewed.

Article 19 of CRC

One hundred and ninety two countries ratified CRC, which came into force on 2 September 1990 after the first 20 countries ratified it (CRC required a minimum of 20 Member States before it could become international law). CRC is a legally binding international treaty since New Zealand adopted it through an Act of Parliament in 1993 (Reading et al., 2009; Shaw & Eichbaum, 2011). Every member of the United Nations with the exception of U.S.A. and Somalia has formally ratified CRC. There are various reasons why the U.S.A. did not ratify the Convention (Wilkins, Becker, Harris, & Thayer, 2003) that relate to perceptions of ownership and protection, the role of government, and how children are viewed in that country. Some of the articles that gave children more rights are viewed as potentially granting children rights that seem by some to surpass parental rights, thus undermining adult authority (Lundy, 2007). The reason Somalia did not ratify CRC is that it has not had a functioning government, while South Sudan, only gaining independence from Sudan in 2011, has already addressed this issue.

It took over a decade to write the 54 articles (sections) that provide human rights standards for the treatment of children and young people (UNICEF, November,

¹⁰ Other human rights treaties include the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR), the UN Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (Torture Convention), the American Convention on Human Rights (American Convention), and the two European Social Charters (Gershoff, 2008).

2009) that are based on four principles: the best interests of the child; nondiscrimination; the right to life, survival and development; and respect for the views of children (Lundy, 2007). The controversial issue of child discipline was only one amongst numerous cultural and social differences that contributed to the challenge to develop the articles, and it was widely celebrated upon its completion. CRC provides an ethical guide and places emphasis on children's rights, dignity and wellbeing, and the physical, social, cultural, political and civil rights of the child (1989).

Article 19 of CRC focuses on a child's right to be protected from all forms of violence, and aims to ensure States implement policies to do so.¹¹ Even if it does not yet have the force of domestic law, each ratifying country is required to aim to implement the rights to the maximum degree of their possible resources and consider the implications of CRC when developing policy (United Nations High Commissioner for Human Rights (OHCHR), 1990). However, many of the countries that formally ratified CRC still legally allow physical punishment, both at home and within schools, and frequently the media highlights yet another country that is grappling with the issue in their legislation (Taylor & Redman, 2004).

In addition to Article 19, there are other articles that relate to children's rights and the prohibition of corporal punishment such as Articles 3, 5, 6 (Breen, 2002) and 12 (Lundy, 2007). For example, Article 12 prohibits the death penalty for juveniles (Gallant, 2009) and CRC states in Article 3 (United Nations High Commissioner for Human Rights (OHCHR), 1990):

1. In all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, administrative authorities or legislative bodies, the best interests of the child shall be a primary consideration.

¹¹ See Child Protection Progress in States Leveraging Article 19 of the UN Convention on the Rights of the Child (1989-2008) (Svevo-Cianci, 2008) for a comprehensive study on the implementation of CRC Article 19 and the link with child protection.

2. States Parties undertake to ensure the child such protection and care as is necessary for his or her well-being, taking into account the rights and duties of his or her parents, legal guardians, or other individuals legally responsible for him or her, and, to this end, shall take all appropriate legislative and administrative measures.

3. States Parties shall ensure that the institutions, services and facilities responsible for the care or protection of children shall conform with the standards established by competent authorities, particularly in the areas of safety, health, in the number and suitability of their staff, as well as competent supervision.

It is well known that historically, international human rights laws are not intended to be construed literally but rather teleologically, that is, within the broader spirit of the law (Lundy, 2007). In contrast, domestic laws are meant to be interpreted literally, with every word considered very carefully. Once New Zealand signs an International Treaty, the aim is to ensure that the domestic laws comply with the principles of the treaty. Human rights treaties are considered living instruments whose interpretations develop over time (Reid, 2006), and human rights legislation often consists of implicit or unarticulated meanings due, at least in part, to various cultural interpretations (Bitensky, 2006).

Much of the controversy for changes in legislation throughout the member states of the UN is with the perceived ambiguity and vagueness of Article 19, and with such a wide mix of social and cultural understandings possible across countries, interpretations proved divisive. The growing human rights movement and globalisation have had a significant impact on CRC. When countries first ratified CRC, wide interpretation of the treaty was assumed. At the time New Zealand, along with many other countries, ratified the convention, there was no specific mention of physical discipline with children and for years it was unclear whether CRC actually banned corporal punishment (Shmueli, 2008).

When effectively applied, the intention of Article 19 is to protect children from child maltreatment. The full text of Article 19 of CRC 1990 (United Nations High Commissioner for Human Rights (OHCHR), 1990) reads as follows:

1. States Parties shall take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse, while in

the care of parent(s), legal guardian(s) or any other person who has the care of the child.

2. Such protective measures should, as appropriate, include effective procedures for the establishment of social programmes to provide necessary support for the child and for those who have the care of the child, as well as for other forms of prevention and for identification, reporting, referral, investigation, treatment and follow-up of instances of child maltreatment described heretofore, and, as appropriate, for judicial involvement.

It is noteworthy that Article 19 does not specifically use the words physical punishment, corporal punishment, physical discipline or smacking. However, it is Article 19 that is specifically relevant for the current study as this is where the statutory interpretation now includes light smacking. It is clear that pressure to ban corporal punishment preceded changes in legislation in various countries. It is possible that even with clearer definitions of physical punishment, human rights awareness, and the complexities involved with respect to culture and context, legislation that involves the physical discipline of children may have remained the same. Part of what contributed to the decision in 2011 to include a light smack as part of the definition of physical punishment was the focus on the best interest of the child during the 20th anniversary of CRC in 2009. The *Special Edition* report celebrating the 20 years of the Convention on the Rights of the Child discusses the link between legislation and attitudes (UNICEF, 2003):

The success of legislation depends on enforcement and changes in societal attitudes and practices, as well as sound principles and provisions promoting children's rights. Many of the practices that are most harmful to children are part of social traditions and cultural attitudes that have been prevalent for generations. Simply passing a law is therefore not enough; it must be backed up with ongoing educational and awareness-raising initiatives, capacity-building, sufficient resources and collaborative partnerships, including children as full participants. This particularly applies when it comes to protecting children from violence, abuse and exploitation. (p. 11)

The UN established a Committee that consists of representatives from 18 UN Member States to monitor the implementation of CRC on national levels for the countries that have ratified it (Svevo-Cianci, 2008) and has the support of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations High Commissioner for Human Rights (OHCHR), and the Non-Government Organization (NGO) Group for the Convention on the Rights of the Child (Nilsson, 2003). The UN Committee (also known as the Committee or the Children's Committee) (Reid, 2006) submits a monitoring report to the UN with any concerns or recommendations on how each country complies with the legislation (Svevo-Cianci, 2008) after two years of ratification, then every five years after that (Bitensky, 2006). Each OECD country receives a UNICEF publication known as the *Innocenti Report Card*. The reports include comprehensive assessments and recommendations that are publically available on the UNICEF website.

The UN Committee on the Rights of the Child *Innocenti Report Cards* in 1997 and again in 2003 (*Innocenti Report Card No. 5*, 2003; *Innocenti Report Card No. 7*, 2007) were not favourable for New Zealand. Wide criticism followed the *Innocenti* country reports as they recommended that New Zealand repeal section 59 and end physical punishment (referred to as corporal punishment in the report). The *Innocenti Report Card* in 2003 also drew attention to New Zealand's poor record with regard to child deaths from abuse and positioned New Zealand in a league table amongst the lowest in the OECD nations.

There were other influences as well. The United Nations Committee on Torture (2004) recommended that New Zealand repeal section 59, and *The Report of the Independent Expert for the UN Study on Violence Towards Children*, presented to the United Nations General Assembly in August 2006, urged all states to end all forms of violence (that included corporal punishment) against children by 2009 (Pinheiro, 2006).

Examples of situations of assault where section 59 was successfully invoked include a man who was accused of chaining his 14-year-old stepdaughter to himself in Palmerston North in 1999, a father who hit his son several times on the buttocks using a piece of wood in Napier in 2001, a mother who struck her son with a horse whip and bamboo cane in North Otago, and a father who beat his 12-year-old daughter with a rubber hose, leaving welts, in Hamilton in 2001. Such incidents highlighted the legal loophole that existed for a parent, charged with assault of a child. Such acts invoked section 59 of the omnibus Crimes Act 1961 (referred to as "the principal Act") as a defence, with the parent acquitted of the assault when it could be justified in Court that whatever corporal/physical discipline/punishment was given the child was done in the name of discipline. In response to the 2001 Hamilton incident, Helen Clark, the Prime Minister at the time, suggested that the benchmark for "reasonable force" was unacceptable (Tunnah, 2005).

There is a distinction that must be made, once again, between physical abuse and smacking. The examples in the above paragraph indicate the influence of the high profile child abuse cases that both confuse and contribute to the public and politician's readiness to respond to any change in the legislation about the physical punishment of children.

In addition, there are incidents specifically relating to toileting issues, where abuse may be confused with disciplinary action. In the cases cited below, the responses from parents/caregivers may in fact, have nothing to do with discipline. Wetting (enuresis) and soiling (encopresis), are frequently a precipitating factor in child abuse cases. Specific examples include the trigger of toileting that led to the death of the child. Hinewaoriki Karaitiana-Matiaha (Lilly-Bing), 23 months old, reportedly had violent toilet training; Tishena Crossland, 2 years old, was beaten with a belt for wetting; and Ngatikaura Ngati, 3 years old, Kelly Ray McRoberts, 6 years old, and Tangaroa Matiu, 3 years old, were beaten to death after they had soiled their pants. When one views toileting of young children as more of a training than a natural developmental process, as in many cultures (Korbin, 1991), a proclivity for child abuse may be present. According to the Nelson Co-ordinator of the Kiwi Enuresis Encopresis Association (KEEA), it is acknowledged that frustration over toileting may lead to violence and is an indicator for possible abuse. As a result, the question "does your child have wetting or soiling problems?" is now included in screening for such services as Well Child Check, a Plunket health service for children under five in New Zealand. The distinctions between real harm for children certainly indicate a need to protect our children. All this notwithstanding, however, there is a potential difference between child abuse and physical discipline (even when harsh) that must be kept in mind for the current study.

The paradigm shift that occurred in 2006 when the Committee further defined violence to include any type of corporal (or physical) punishment (Rayner, 2008) is critical. The following delineation clearly signifies a light smack in the definition:

The Committee defines "corporal" or "physical" punishment as any punishment in which physical force is used and intended to cause some degree of pain or discomfort, *however light* [emphasis added]. Most involves hitting ("smacking", "slapping", "spanking") children, with the hand or with an implement – whip, stick, belt, shoe, wooden spoon, etc. But it can also involve, for example, kicking, shaking or throwing children, scratching, pinching, biting, pulling hair or boxing ears, forcing children to stay in uncomfortable positions, burning, scalding or forced ingestion (for example, washing children's mouths out with soap or forcing them to swallow hot spices). In the view of the Committee, corporal punishment is invariably degrading. In addition, there are other non physical [sic] forms of punishment which are also cruel and degrading and thus incompatible with the Convention. These include, for example, punishment which belittles, humiliates, denigrates, scapegoats, threatens, scares or ridicules the child. (UN General *Comment No.* 8, 2006, p. 4)

The Comments (the interpretation of the content of human rights provisions published by the Committee) from the 2006 Committee meeting sanctioning that a light smack is violent were officially accepted early in 2011, and published in *The Right of the Child to Freedom from all Forms of Violence* (2011). CRC clearly established a formal position on the smacking of children. Allegra Franchetti, a Human Rights Officer for the Human Rights Treaties Division, confirmed with the researcher that "the Committee has definitely decided that light smacking is violent, so all states that have ratified the Convention should assume (light) smacking is included as part of the definition" (A. Franchetti, personal communication, March 28, 2011). With the Committee's stance that a light smack is considered violent, the teleological interpretation of the original treaty is no longer adequate.

When the overwhelming majority of countries ratified Article 19 of CRC, the response was for the protection of children from abuse, and what traditionally was

open for interpretation in the late 1980s became prescriptive for light smacking in 2011. Countries now needed to manage this shift and grapple with how best to implement the international statutory interpretation in national legislation to conform to CRC (Reid, 2006). The more specific understandings of physical punishment and human rights brought attitudes and beliefs that were once held at the grass roots level to an international level, and the use of physical force by adults to discipline children is the subject of major debates in legal and political arenas on an international scale (Hazel, Ghate, Creighton, Field, & Finch, 2003). Research in the areas of children's rights and views is growing. For example, Bitensky (2006) completed a comprehensive review of human rights legislation, and supports the Committee's interpretation that a light smack is assumed violent and violates children and found that adult assumptions about the experience quite different than that of the children (Carroll-Lind, 2006; Dobbs & Duncan, 2004; Willow & Hyder, 1998).

In New Zealand, the significant media attention resulting from the UN *Innocenti* reports as well as several high profile abuse cases influenced a strong public response that set the political context for the bill to change the legislation on physical punishment be introduced into Parliament. International treaties that are ratified by the New Zealand government do not become part of domestic law immediately (Gallant, 2009). A legislative process must be adhered to. This made a strong case to change the legislation and send the message that it is not acceptable to physically punish children.

How Bills become Law in New Zealand

The law and legal processes that surround legislative reform in New Zealand must be examined to more fully understand the impact of CRC on the historical, social and political context that surround the physical discipline of children. This section includes the process of how newly proposed legislation – a bill – becomes law in New Zealand. A bill is a law in the making and an act is law. Before a bill becomes law it must first pass through several stages. The final version of a bill that becomes law is referred to as an act, or statute, and may be amended or repealed as it reflects a changing society (Ringer, 1991). The following outline about how bills become law

in New Zealand is drawn mainly from the New Zealand Parliament's website (2013), and other sources are indicated where appropriate.

There are four ways that a bill is introduced into Parliament in New Zealand. The two main ways new laws are proposed are through a Government minister (Government Bill) or a Member of Parliament (MP) (Member's Bill). Less common are local and private bills. Most Acts of Parliament begin as Government bills. Member's Bills, not normally part of the Government's legislative programme (yet still affect public policy), go into a ballot to be drawn. The House of Representatives meets for approximately 30 weeks of the year and sits on Tuesdays, Wednesdays and Thursdays (and other dates if urgent although this is rare). Every second Wednesday that the House meets there is the possibility that a ballot is drawn at noon and debated. All members of Parliament are allowed one bill each for the ballot. Should an MP wish to introduce another bill the new bill must replace the old one. Once drawn from the ballot, a Member's Bill (sometimes referred to as a lucky bill) follows a similar process as that of a Government Bill. According to Ringer (1991) very few private Member's Bills pass into law; rather, they are normally introduced on a controversial issue to encourage debate. To obtain change for new legislation the bill must first go through a seven-stage process.

Regardless of the process in which a new law is proposed for the legislative process, prior to being introduced to Parliament the content of any bill must be drafted and approved by the Parliamentary Council Office of Cabinet. The responsibility of drafting a bill is dependent on how the bill enters Parliament, the government department involved for Government Bills, the member sponsoring the Member's Bill, the local authority for local or private Bills (Ringer, 1991). The Cabinet Committee of the Parliamentary Council Office is responsible for the refining and publication of legislation, and reviews the content in relation to aspects that might need consideration before it goes to Cabinet, such as possible consequences or the bill's effect on other legislation. An iterative process, the drafting of the legislation may provide between 10 and thirty drafts for complex legislation and between 5 and 10 drafts for simple bills. Although Bills do have titles (that often change), they are also given sessional numbers to reflect the various stages they are in, such as 271-1, 271-2, etc., and then after the Third Reading a clear version is printed, certified by

the Clerk and checked by the appropriate parties in preparation for the Royal assent (Ringer, 1991).

The first stage of the legislative process is the Introduction, which simply announces that a bill has arrived in Parliament. The Introduction must have an explanatory note that describes the policy it is presenting. There is no debate at this stage, simply the Introduction of the bill. Once the bill is drawn from the ballot and introduced to Parliament, all MPs and the public have access to the text of the bill and the legislative process begins.

The second stage is the First Reading. During the First Reading the MPs have a two hour limit to debate aspects of the bill if it is a Government Bill, while other bills have a little over an hour. This initial debate consists of 12 ten-minute speeches, also referred to as taking a call on a bill. At the end of the debate (which is normally led by the member in charge of the bill) a vote is called for and the House makes a decision about whether or not the bill should proceed to the Select Committee. Sometimes a party vote is called for. The bill is referred to a select committee if the First Reading is agreed, but it must receive a majority of the votes in Parliament for it to proceed to the next stage or it is the end of the bill.

The third stage is known as the Select Committee stage. The Select Committee, also known as the Justice and Electoral Select Committee, is normally a small group of politicians from different parties. Nearly all bills are referred to the relevant Select Committee that will debate the issues as well as invite the public to submit oral or written submissions (Ringer, 1991). This process of public input may also consist of confidential submissions made from government departments. The Select Committee considers the submissions and examines the bill, and typically reports back to the House with a commentary and a second version of the bill within six months. If the Select Committee needs more time, the reporting date may be extended. Once the Select committee presents its report, and from the third sitting day after that report, the bill is available for Second Reading. If the members of the Select Committee do not agree on the form of a bill, the majority vote prevails.

The fourth stage is referred to as the Second Reading. The Select Committee reports back to the House with the bill and any recommended amendments (Ringer, 1991).

Again up to two hours are permitted to debate any changes recommended by the Select Committee as well as the main principles of a bill clause by clause. Any amendments that did not have unanimous support of the Select Committee are voted on. MPs or Ministers may also suggest changes, or amendments which are referred to as Supplementary Order Papers (SOPs). SOPS are also debated and voted upon. If the Second Reading is agreed, the amendments are included into the bill. However, once again the vote must pass with a majority, or the bill will be defeated.

During the fifth stage, the Committee Stage of the entire House (also referred to as the Committee of the Whole House), which consists of all the MPs, considers the bill in detail and members may propose further amendments. Since there is no time limit on this stage, this process may take place over several days, particularly with bills of a controversial nature. Only the final decisions of the Committee Stage are recorded in *Hansard* (Ringer, 1991). Once the final content of a bill receives a majority vote in the Committee Stage the bill is reprinted to reflect any changes made to the bill. The final form of the bill, once agreed, returns to the House with any new amendments that were made.

The Third Reading, also referred to as the sixth stage or the final stage in the House, is the last opportunity for the House to decide whether the bill should be passed. Historically the Third Reading is more of a formality, however it is possible for further debate to occur here as well (Ringer, 1991). Normally the debate at the Third Reading is summed up with general comments on the final form of the bill. The time limit for the debate is two hours. In addition to party votes, there are individual conscience and personal votes where MPs are not bound by their party whip. Normally such votes relate to religious, moral or ethical issues. At the end of the debate there is a final vote, and once again there must be a majority vote in favour of a bill or the bill is defeated. From this point the wording of a bill cannot be changed. When the Third Reading of the bill is passed by the House, there is one more step before it becomes law.

The seventh and final stage is known as the Royal Assent. Considered more of a formality (Ringer, 1991), the Prime Minister and the Attorney-General, or senior Ministers, advise for the assent to take place. Once the bill is signed by the Queen's

representative, the Governor-General, who is separate from the House although still part of Parliament, a bill becomes law. The next section describes the legislative process for the specific bill that led to the eventual legislation that is a substitution of a new section 59 to the principal act, the *Crimes Act 1961*.

First Stage to Repeal Section 59: The Introduction

On 9 June 2005, Green Party Member of Parliament Sue Bradford had her Member's Bill drawn from the ballot. Sue Bradford was known as the sponsor of the Bill, and it is often referred to as Sue Bradford's Bill since she is the Member of Parliament that made the submission. The explanatory note that is required at this stage refers to the bill as the Crimes (Abolition of Force as a Justification for Child Discipline) Amendment Bill, read as follows:

Explanatory Note

The purpose of this Bill is to stop force, and associated violence and harm under the pretence of domestic discipline, being inflicted on children. Presently, section 59 of the Crimes Act 1961 acts as a justification, excuse or defence for parents and guardians using force against their children where they are doing so for the purposes of correction and the force used is reasonable in the circumstances. The Bill will repeal that provision.

The effect of this amendment is that the statutory protection for use of force by parents and guardians will be removed. They will now be in the same position as everyone else so far as the use of force against children is concerned. The use of force on a child may constitute an assault under section 194(a) of the Crimes Act, a comparatively new provision in the criminal law, and the repeal of section 59 ought not revive any old common law justification, excuse or defence that the provision may have codified.

Clause 4 simply repeals section 59.

Clause 5 makes consequential amendments to section 139A of the Education Act 1989 to remove the exemption for guardians in the prohibition on corporal punishment in schools. (Bill 271-1)

The explanatory note made it very clear that the purpose of this Bill was to totally repeal section 59 of the *Crimes Act 1961* and end the use of reasonable force by parents as a justification for disciplining children. This original bill intended to remove the section 59 defence only, and Bradford commented that "the climate of public opinion is so manifestly not ready for a ban on smacking (27 July 2005, 627 NZPD 22086). The explanatory note was in response to the controversial legislation

of Section 59 of the *Crimes Act 1961* stated, under the heading "Domestic discipline":

59 Domestic discipline

(1) Every parent of a child and, subject to subsection (3), every person in the place of the parent of a child is justified in using force by way of correction towards the child, if the force used is reasonable in the circumstances.

(2) The reasonableness of the force used is a question of fact.(3) Nothing in subsection (1) justifies the use of force towards a child in contravention of section 139A of the Education Act 1989.

Section 139A of the Education Act 1989 is the enactment criminalising school corporal punishment, so the third clause prohibited teacher-parents from using force on their own children if it could be interpreted as school corporal punishment.

Second Stage: First Reading

Sue Bradford's Bill (Bill 271-1) passed its First Reading in Parliament on 27 July 2005 with 63 votes in favour and 54 against, with just enough support for it to move to the Third stage, or the Select Committee stage. The political, historical and social context examined later in this chapter provide further understanding about how Bradford's Bill passed the First Reading, unlike others before that did not make it this far. Many people were concerned that, once the Bill was drawn, New Zealand was not quite ready for the Bill to succeed and that there would not be enough public support. However, this did not prove to be the case.

Third Stage: Select Committee Stage

The closing date for submissions on Sue Bradford's Bill was 28 February 2006. However, given the large number of submissions, 16 months rather than the normal six were allowed by the Select Committee. According to the Justice and Electoral Select Committee report (*Crimes (Abolition of Force as a Justification for Child Discipline) Amendment Bill*, 2005), which was chaired by Labour MP Lynne Pillay, 1,718 written submissions were received regarding section 59 between the months of November 2005 to end of February 2006. Between May and August of 2006 the Select Committee also heard 207 oral submissions at various locations around the country (Wellington, Auckland, Hamilton and Christchurch). The report includes that the majority (1,471) of submissions were from individuals and 247 were from organisations. Those that identified themselves as parents or caregivers numbered 385 and 76 were children or young people. Advice was provided from the Ministry of Justice, the Ministry of Social Development, the Department of Child, Youth and Family Service, the New Zealand Police, and the Law Commission.

The submissions for both sides of the debate were carefully considered by the Committee. Advice was received from sources such as the Law Commission, the Ministry of Justice, the Ministry of Social Development, the New Zealand Police, and the Department of Child, Youth and Family Services. The National Party members of the committee offered three objectives to ensure the amendments to the Bill were realised. Firstly, the amendments should send the message that child abuse is wrong; secondly, that child abusers need to be prevented from hiding behind section 59; and lastly, "good parents" needed assurance that they would not be criminalised. Although every effort is made to reach consensus on a bill, according to the report from the Justice and Electoral Committee (2007) agreement was not reached. The written submissions are available at the Parliamentary Library and available online for anyone to peruse (as are the Hansard debates, that detail the various Parliamentary discussions on an issue).

An analysis of the written submissions to Parliament in 2006 on the Bill to repeal section 59 of the *Crimes Act* was undertaken by Debski, Buckley, and Russell (2009) through the Ministry of Social Development. Their analysis of the written submissions to Parliament in 2006 examined the connection between how children are viewed and the approval of physical punishment. They concluded that people's deepest beliefs about children and their rights affect how children should be raised. Also, not surprisingly, findings indicate that many who opposed the repeal of section 59 (and there were far more submission for those who opposed the change in legislation than those who were for it) did not link physical discipline with child abuse at all.

It is of note that during Stage 3 of the legislative process the majority of those who made submissions to the select committee and opposed the Bill mainly commented on the right to smack rather than on specific provisions of the Bill (Debski et al., 2009). Issues of major concern in the submissions include the rights of parents to discipline their children as they see fit, the concern over the prosecution of parents or

the removal of children from their homes, concern over the prohibition of what was viewed as an effective tool for raising children and finally, that those with specific belief systems would have their right to discipline as they wish removed.

It was at this Third stage that the Bill received its first amendment. One of the recommendations by the Committee was that the title of the Bill be changed from the Crimes (Abolition of Force as a Justification for Child Discipline) Amendment Bill 2005 to the Crimes (Substituted section 59) Amendment Bill. It was made clear in the commentary (that is normally included with the amendments) that such a title more adequately reflected the intention of the Amendment, which was to remove "the statutory defence for parents and every person in the place of a parent who use force against their children for the purpose of correction". The suggested title change was accepted. The Select Committee also recommended that clause 3 be amended to more closely reflect the intention of the bill.

There were four Supplementary Order Papers (SOPs) during the third stage, with suggestions such as some protection for parents who use force to restrain children in some circumstances, yet specifically ban the use of force for the purpose of correction ("Crimes (Substituted Section 59) Amendment Bill," 2007). The one that received the most attention was the SOP from National Party MP Chester Borrows, who held that amendments to Sue Bradford's Crimes (Abolition of Force as a Justification for Child Discipline) Amendment Bill 2005 went too far. Borrows strongly advocated that it was too extreme to seek a total ban on smacking as parents would be liable for prosecution, and that force with children was sometimes necessary and should not be a crime. Borrows, who spent a number of months on the Select Committee to hear submissions from around the country and to consider the Bill, stated that the Bill is not about smacking but about the abuse of children, and that the outcomes of the changed legislation should be that a message is sent that child abuse is wrong. Borrows drafted Supplementary Order Paper 86 in response to the Crimes (Abolition of Force as a Justification for Child Discipline) Amendment Bill to emphasise that parents who try to use section 59 as a legal loophole to seriously assault their children should be stopped, and that the Bill should not criminalise parents who occasionally smack their children ("Supplementary Order

Paper," 2007). Borrows states the following about Supplementary Order Paper 86 (2007):

Labour members cannot have it both ways, and they will need to have a think about that. An amendment I have put forward to clause 4 limits the use of section 59 to three minor uses, because parents who do more than what is reasonable will be charged with more serious offences. The amendment does not allow the use of implements because they become too hard to define effectively and we would be forced to try to define not only what they were but also how they would be used, which would be a hopeless situation. Reasonable force could not be used in a way that is cruel, degrading, or terrifying. (p. 8442)

National MP Chester Borrows' aimed to be specific about what, exactly was acceptable force. He suggested that smacking with a hand was acceptable as long as its impact is "transitory and trifling". Borrows' SOP was defeated 63 - 58.

Tensions in Parliament ran high. Sue Bradford was so adamant that the legislation should not continue to allow any legal loophole for abuse that she threatened to withdraw her Bill if certain amendments were made; particularly any change that sent the message that smacking was still acceptable. The text of Bradford's Bill consisted of a total repeal of section 59 of the *Crimes Act*. The exact text that the Justice and Electoral Select Committee proposed on 20 November 2006 with the new section 59 substituted (Bill 271-2) is as follows:

New section 59 substituted

Section 59 is repealed and the following section substituted: 59 Parental control

(1) Every parent of a child and every person in the place of a parent of the child is justified in using force if the force used is reasonable in the circumstances and is for the purpose of—

(a) preventing or minimising harm to the child or another person; or

(b) preventing the child from engaging or continuing to engage in conduct that amounts to a criminal offence; or

(c) preventing the child from engaging or continuing to engage in offensive or disruptive behaviour; or

(d) performing the normal daily tasks that are incidental to good care and parenting.

(2) Nothing in subsection (1) or in any rule of common law justifies the use of force for the purpose of correction.

(3) Subsection (2) prevails over subsection (1).

Note the new section 59 is now referred to as *parental control* rather than *domestic discipline*.

The Fourth Stage: The Second Reading

The Select Committee reported back to the House with the Bill and recommended amendments. Sue Bradford's Bill passed its Second Reading in Parliament on 21 February 2007 with 70 votes for and 51 against, and moved to the Committee Stage. It was generally agreed that the bill as it stood was to remove the legal loophole for parents to abuse their children and invoke section 59 as a defence, but there was still unrest over the wording of the Bill.

The Fifth Stage: The Committee Stage

On 14 March 2007, Parliament began to debate the Bill clause by clause, and other Members' Days (28 March, 2 May) consisted of speeches and lengthy debates. During the Committee Stage any MP in the House may enter the discussion on the Bill (again with no set time limit) and suggest amendments to a bill which are then voted on individually. The Committee Stage often has attempts to delay the process by introducing numerous amendments, known as filibustering, which the National Party was (unsuccessfully) accused of.

Since Parliament is in recess for most of April, the final vote would not take place until May. Many found the time Parliament was in recess a valuable time to continue to lobby MPs and debate the issues. Opponents to the Bill supported a visit by Dr. Robert Larzelere from the U.S.A. as he is a key advocate in support of physical discipline for children. Larzelere entered into media debates and promoted the use of physical discipline as useful and effective. In the meantime, Labour attempted to push the bill through under urgency (particularly unusual as it was a Member's Bill) but it did not have the support. The weeks during the Committee Stage were a particularly intense time with continued debates on issues such as the physical punishment of children, the role of government, family, violence and authoritarianism.

The Sixth Stage: The Third and Final Reading / the Compromise

Parliament reconvened after the Easter break on 2 May 2007, and a public rally was timed to coincide with the recommencement of the debate in Parliament at 11 am.

Public interest was reflected with street demonstrations and a cathedral service. Destiny Church organised a major demonstration of approximately one thousand opponents to the Bill in front of the Parliament buildings. St. Paul's Anglican Cathedral, across the road from Parliament, held an ecumenical service in support of the Bill at midday. Christian denominations that represented Methodist, Presbyterian, Anglican and Catholic churches, the Prime Minister and other politicians attended. The cathedral bell tolled 10 times during the service, symbolic of the 10 children who die through family violence each year in New Zealand. Sue Bradford and Prime Minister Helen Clark accepted a letter in support of repeal of section 59, presented in silence, on the steps of the Parliamentary Library, signed and presented by a large number of church representatives and leaders. The Anglican bishops had issued a statement in support of repeal of section 59 the previous day. Likewise, leaders of the demonstration against the Bill presented their views to parliamentary representatives.

Given that once the final content of a bill receives a majority vote in the Committee Stage the wording of the bill cannot be changed, it is a critical point. Parliamentary debates continued, with clarification about the wording continuing until the very last moment. It was during the Third Reading of the Crimes (Substituted section 59) Amendment Bill, John Key, originally in opposition to the Bill, managed to facilitate the amendment that would bridge the main area of contention, and reassure "good parents" that they are still allowed to smack their children without being charged as criminals. Key proposed the following with reference to clause 3 (2 May 2007, 639 NZPD 9284), the clause that prohibits reasonable force for the purpose of correction:

Every parent of a child and every person in the place of a parent of a child is justified in lightly smacking the child in the course of their parenting duties if the smacking used was minor and inconsequential. (p. 9284)

At first Bradford rejected Key's suggestion of "minor and inconsequential", and stated she did not want the law to define the level of acceptable violence.

Helen Clark, Prime Minister at that time, used the wording in Key's proposal to form clause 4 below to provide a guide for police discretion and public so that those who

still lightly smacked their children would be reassured they would not be prosecuted for minor parental assaults or inconsequential cases. Consideration of the proposed legislation commenced mid-morning on 2 May 2007 with a joint press conference announcement. Until this date, there was still considerable disagreement about the phrasing of the Bill (Bill 271-3) and unparalleled debate within New Zealand about a way forward. The new section 59 with the clause 4 compromise looked like this:

New section 59 substituted

Section 59 is repealed and the following section substituted:

59 Parental control

(1) Every parent of a child and every person in the place of a parent of the child is justified in using force if the force used is reasonable in the circumstances and is for the purpose of—

(a) preventing or minimising harm to the child or another person; or

(b) preventing the child from engaging or continuing to engage in conduct that amounts to a criminal offence; or

(c) preventing the child from engaging or continuing to engage in offensive or disruptive behaviour; or

(d) performing the normal daily tasks that are incidental to good care and parenting.

(2) Nothing in subsection (1) or in any rule of common law justifies the use of force for the purpose of correction.

(3) Subsection (2) prevails over subsection (1).

(4) To avoid doubt, it is affirmed that the Police have the discretion not to prosecute complaints against a parent of a child or person in the place of a parent of a child in relation to an offence involving the use of force against a child, where the offence is considered to be so inconsequential that there is no public interest in proceeding with a prosecution.

The Parliamentary session commenced again at 4 pm to consider the proposed legislation with the agreed amendment that was announced earlier that afternoon. That evening, the House voted overwhelmingly in favour of the amended Bill and speeches were held to praise those who helped to resolve the impasse. The physical discipline of children fit within the scope of religious, moral and ethical issues and thus was allowed a debate for up to two hours during the final reading in the House. Sue Bradford's Bill passed its Third Reading with 113 votes for and 8 against, and the Bill became law. There was an (unprecedented) standing ovation from many present, both MPs and supporters of the repeal in the Public Gallery, not only for Sue Bradford but for others who supported the reform. That the Prime Minister and the leader of the opposition worked together to see this through was an historical occasion in New Zealand politics, and the debates in Parliament acknowledged the efforts of Sue Bradford, Katherine Rich and Chester Borrows, and many spoke more personally on the issue.

Not everyone was happy with the vote. Moral conservatives were particularly opposed. Larry Baldock, former United Future MP, is quoted in The New Zealand *Herald* newspaper (2007) stating "It still criminalises parents who use force for the purposes of correction. All this proposal does is give police the discretion not to prosecute on minor offences". He also stated that parents were still criminals and will have broken the law if they try to use force to discipline their children. Nonetheless, the new amendment confirmed that police have discretion not to prosecute in cases of inconsequential breaches. Greg O'Connor, the Police Association president, stated that police were concerned that a repeal of section 59 would leave police with no room for discretion (2 May 2007, 638 NZPD 8850). Before the compromise was reached, it was assumed police were to prosecute on every occasion. Focus on parents who still lightly smacked their child would not be considered unlawful. This was specifically mentioned in the Hansard Speeches to provide a secondary source in statutory interpretation (2 May 2007, 638 NZPD 8819). The legal loophole that allowed parents who abused their children in the name of discipline was removed.

According to Ian Hassall, former Commissioner for Children from 1989-1994, the police were not given discretion – they had that before – rather their discretion was affirmed (note the reference to affirmed in clause 4 above) (Hassall, 2007). Hassall maintains that although there are those who interpret the law as still granting permission to smack, that is not the intention of the law. Clause 4 does not create a new defence; rather it makes it clear that the police have the discretion about whether or not to prosecute for smacking incidents. In other words, it is still okay to smack your child as long as they are not hit too hard.

The Seventh Stage: The Royal Assent

Sue Bradford's Bill passed into law on 16 May 2007 when it was signed by the Governor General, Anand Satyanand, who granted the Bill Royal Assent on 21 May 2007, and the new law came into effect on 21 June 2007.

Political Context

The politics that surrounded the Green, Labour and National Parties had a significant influence on the Bill. What some view as an unusual turn of events with the Labour Party and the National Party in agreement over a significant policy for New Zealanders, some view as "nonsense and pure politics" (2 May 2007, 638 NZPD 8850). From 21 June 2007 the defence of the use of reasonable force, in situations that otherwise would be identified as assault, for the purposes of discipline was no longer permissible in New Zealand. Public agreement by leaders of the two main political parties, Labour and National, is rare, yet the Prime Minister Helen Clark, the Leader of the Opposition John Key, the leader of United Future Party Peter Dunne, and Green Party Member of Parliament Sue Bradford, the Bill's sponsor, jointly agreed to support the passage of the Bill into law with a compromise amendment, and parents/caregivers were assured that that they would not be prosecuted for minor violations of the legislation. The new legislation did not define what sort of physical punishment would be acceptable. The only party that voted against the law was the ACT^{12} party. The substitution, the rephrasing of the final Bill that then became law, made it very clear that assault was no longer acceptable, even if in the context of discipline.

Sue Bradford was supportive of the compromise if it reassured New Zealand parents and facilitated more of a political consensus, but reiterated that she did not think it was necessary to include the amendment as it did not change what the Bill was hoping to achieve. Bill English, the current Deputy Prime Minister of New Zealand, suggested that the only change is that the defence has changed from reasonable to inconsequential (Hansard debates, 2 May 2007, 638 NZPD 8819). The meaning of the term inconsequential will still need to be interpreted by the Courts, but it is now clearer what was intended by Parliament, and certainly there is clarity in the Hansard debates. The changed legislation seems a variation of the amendments of both

¹² Association of Consumers and Taxpayers political party.

Borrows and Bradford. Chester Borrows stated that the "debate was always about whether parents who smack should be rendered liable for prosecution" (Hansard, 2 May 2007, 638 NZPD 8850).

Brian Donnelly of the New Zealand First party (16 May 2007, 639 NZPD 9284) stated that the compromise was a political risk for both Helen Clark and John Key and he congratulated them both for showing "great courage". It seems that everyone was a winner with this compromise. Bradford acknowledged that the emphasis on the new terms was in what the police can do rather than what parents can do, and claimed her position had not been compromised. John Key initiated a solution so that good parents would not be criminalized for lightly smacking their children, and Helen Clark had the final word and did not pass an unclear law.

On the very day the legislation was passed there were arguments in Parliament in the Hansard debates (2 May 2007, 638 NZPD 8850) when Bill English gave full credit to John Key and Labour supporters gave Helen Clark the praise for the initiative (Phil Goff). Key let it be known through various speeches that should he be elected Prime Minister, and should the legislation not be working, he would change it. Also on that day Gordon Copeland, a list MP for the United Future party from 2002 to 2007, resigned (16 May 2007, 639 NZPD 9284) in opposition to the party leader, Peter Dunne, who voted for Bradford's Bill. Although there is more that contributed to Copelands's resignation from the United Future party, the legislation caused many political ripples.

According to David Cunliffe in the Hansard Speeches (2 May 2007, 638 NZPD 8876), then Minister of Immigration:

We have seen some extraordinary events. We have seen the then Prime Minister craft a ground-breaking deal to get this bill through, and we have seen the Leader of the Opposition roll over and then stand up on a podium and take the credit for it. We have seen the perhaps not unsurprising spectacle of Television One and TV3 not being able to tell the difference, of not actually working out what remarkable events have gone on in the last 72 hours. What has happened here, as Rodney Hide has said, is essentially the National Party has come to its senses. It has realised that playing politics with this bill has gone on for long enough, and that it is time to do the right thing, in the long run, for the children of New Zealand. I commend National for that. It is undoubtedly the right thing to do.

However, for many New Zealanders there is ongoing lack of clarity about the legal compromise, and it is still uncertain if the Bill was repealed or amended. Although a total repeal of section 59 of the *Crimes Act 1961* was the original suggestion from the Bill when it was drawn in the ballot in 2005, it is notable that the final Bill actually consists of a substitution for the law as it existed before. The old section 59 "Domestic discipline" defence was fully *repealed*, yet overall the legislation was *amended*. An information sheet published by UNICEF, *Physical Punishment of Children in New Zealand – An Update* (2013) started the article with "In 2007 the Crimes Act 1961 was amended repealing the statutory defence (section 59) that had provided parents and caregivers with a legal defence if they were charged with assaulting a child" (p. 1). Many still think that the law includes a total ban on the smacking of children.

The seven stages of legislative process clearly indicate something far deeper and broader through the discussions held on the physical discipline of children in Aotearoa New Zealand given the intense public response from the time the Bill was drawn until the Crimes (Substituted section 59) Amendment Act 2007 became law (and even after). No longer relevant to interpret the Crimes (Substituted section 59) Amendment Act 2007 are the age of the child, where on the body the smacking took place, how much force and what instruments are acceptable. The Hansard Debates are filled with points of clarification about the legislation. The media seemed to exacerbate confusion over the interpretation of the law.

Media Debates

The confusion with respect to what the legislative change would entail was particularly noted in the media. Heated debates included such key issues as human rights (parents and children), the role of the government, the discipline of children, and authority. Assumptions made about definitions and understandings of child abuse and its related concepts elaborated on in the previous chapter are evident in the media and public debates, and rather than attention drawn to the removal of the legal loophole for parents to abuse their children, the smacking of children was consistently front and centre of the debates.

The media influence on public opinion was substantial, and played an important role in the misperceptions that continued even after the Bill became an Act. The press quickly coined the phrase "the anti-smacking bill" and commonly referred to "the smacking debate". Public discussion on issues related to the repeal of section 59 were patchy before Sue Bradford's Bill was drawn from the ballot; however, once the Bill was drawn the media focus on the political and public responses to the issues surrounding child discipline and child abuse reached a zealous pitch during the weeks the Bill proceeded through Parliament. Such influence was highly significant in determining the course of the legislation (Wood et al., 2008).

Although impartiality and objective coverage of current affairs is associated with good journalism, with respect to the issue of the physical discipline of children there were many times when even the headlines appeared biased. One of the major concerns was that parents would be prosecuted for smacking their children, and fears that the new law would lead to the criminalisation of parents was consistently heard or read throughout the media debates. The mixed message that smacking would be banned was confusing when also heard was that smacking lightly was acceptable. A New Zealand Herald commentator, Tapu Misa (5 December 2007), suggested that the framing of Sue Bradford's Bill as an "Anti-Smacking Bill" contributed to the media frenzy that ensued, as well as the confusion over the intention of the Bill. The choice of the term smacking led the debates away from the original intention of the legislation and added confusion to an already highly contentious issue. More accurately such a heading could have at least indicated it was an "Anti-Abuse Bill".

The nationwide debates were ongoing. Politicians themselves were sometimes confused, with National MP Chester Borrows at one point indicating that police discretion provided an actual defence. Three key positions surfaced during the debates on the issue of the physical punishment of children. There are those who are for smacking, those against, and a third group neutral, undecided, or indifferent. It seemed everyone had something to say about the issue. What was known as Sue Bradford's Bill quickly became known as Helen Clark's Bill, as Helen Clark was accused of rushing the bill through Parliament. This was viewed by some as a political ploy to malign her, with comments from National Leader John Key (2007):

The Labour Government has shown utter contempt for New Zealanders and the democratic process with its plan to railroad the anti-smacking bill through Parliament....The Labour-led Government knows the measure is deeply unpopular, so it plans to act against the wishes of the majority of Kiwis and ram the bill through under urgency. This is a deeply cynical abuse of power as Labour tries to clear the decks of this controversial issue. Helen Clark has refused to let her MPs vote the way they really think on this bill. To ram it through under the cover of urgency shows just how out of touch her government has become. Now, not content with riding over the top of the wishes of some of her MPs, she wants to ride over the top of the wishes of the majority of New Zealanders - while she's out of the country. The Prime Minister also knows that she has been caught out saying one thing about the smacking ban before the election, and giving a different answer afterwards. This is arrogant and cynical government at its very worst. This is not about good law, this is about Labour's political damage control.

Contrary to John Key's comments was the view that the New Zealand government failed to take responsibility to promote and advocate for the legislation (Austin, 2010).

It seems a small group of non-mainstream Christian individuals and groups managed to not only influence the media debates, but create unease about the role of government. The Destiny Church's¹³ Bishop Tamaki said the Bill contradicted the God-given responsibility for parents to raise their children according to biblical

¹³ A new Christian church in New Zealand with strongly conservative views. See http://www.destinychurch.org.nz/aboutus.

principle, and that included administering "loving, proper corrective discipline in appropriate circumstances" (see Chapter 5 on Parenting Styles for further elaboration of physical discipline and religion). Strong and outspoken opponents to the change in legislation were key religious leaders such as Destiny's Bishop Brian Tamaki, Sally Paea's Otara-based Crosspower Ministry, Bob McCroskie and Family First, Craig Smith and Family Integrity, Larry Baldock and Sheryl Savill and Focus on the Family.

Austin (2010) maintains that religion played a significant role in the confusion over the legislation, with the conservative religious groups aware that the argument against the physical punishment of children for religious reasons would not sit well with New Zealanders, particularly with their previous experience with other moral issues such as homosexuality and civil union legislation, abortion and prostitution. To be able to effectively fight the moral decline of the nation Austin suggests that the religious fundamentalists ran a focussed campaign to confuse the public with misunderstandings about the law. Nonetheless, there had to be enough support amongst the New Zealand public for any position taken amongst this religious group to create a stir. One editorial at the time commented that it was better to focus on the role of government as the majority of New Zealanders are not evangelical or conservative Christian, so this was a more effective way to sway the influence.

Either way, parental rights was a large focus for the position of those for smacking. During the introduction of the Crimes (Substituted section 59) Amendment Act 2007, the focus was frequently on how the new legislation would turn good ordinary parents into criminals, ruin children, and have no impact on child abuse. Two years after the Bill became law a Citizen's Initiated Referendum in August 2009 to determine whether the so-called anti-smacking amendment passed in 2007 was working, revealed that the controversy over the smacking issue was ongoing. Nearly 88% of the New Zealand population voted "no" to the question: "Should a smack as part of good parental correction be a criminal offence in New Zealand?" Controversy over the potentially misleading and confusing phrasing of the referendum may have accounted for some of the votes; however, due to the significant amount of publicity preceding the vote it is likely that the majority of the 56% of eligible voters who did vote were aware of the question's intent. There was not much indication of change from 2001 when 80% of 1,000 adults surveyed continued to agree that a parent/caregiver should be able to smack a child with an open hand if they misbehave. The media debates and referendum point clearly to the degree of confusion and diversity of views in parenting and disciplinary attitudes in Aotearoa New Zealand, and the media has received much blame about the misunderstandings in relation to the legislative change. However, there were historical and social factors to contend with as well.

Historical and Social Context

Physical discipline, once accepted as part of the educational and familial disciplinary behaviours, is currently in a state of transition on a global level. Sometimes referred to as "in loco parentis", which literally means "in the place of a parent", teachers were given the rights to discipline children as they felt appropriate. Once again, how violence is defined along with the growing recognition of children's rights – the notion of loco parentis in schools is now banned in many countries – reflects changing attitudes. (See Durrant & Smith (2012) for a detailed discussion of the global unfolding of the legal prohibition of physical punishment of children).

There were many advocates and events that led to public awareness and reform that eventually led to the change in legislation in the Crimes (Substituted section 59) Amendment Act 2007. The historical and social context in New Zealand significantly contributed to the eventual change in attitudes towards the physical discipline of children. As previously mentioned, early campaigners against section 59 of the Crimes Act 1961 include Jane and James Ritchie, who had advocated for change since the 1970s and had written to the Minister of Justice in 1979 proposing the repeal of section 59. Other New Zealanders have long been campaigners to end the physical punishment of children. Ian Hassell, the first children's Commissioner, Robert Ludbrook, a lawyer who specialised in children's issues, Beth Wood, spokesperson for the End Physical Punishment of Children (EPOCH) who coauthored the book Unreasonable Force: New Zealand's Journey towards Banning the Physical Punishment of Children (Wood et al., 2008) and Anne Smith of the Children's Issues Centre in Dunedin were all formidable advocates on behalf of children. In 1997 the EPOCH organisation grew out of a child advocacy group that had existed since the 1980s (Wood et al., 2008). That group continued to progress

and EPOCH is now an international organization that advocates for legislative change on the physical *punishment* of children. Dame Silvia Cartwright, the New Zealand Governor General from 2001 - 2006, was accused of stepping over the mark as a representative of the Queen at the New Zealand *Save the Children Conference* Annual General Meeting on 16 June 2002 when she openly criticised section 59 of the *Crimes Act (Cox, 2002)*.

New Zealand First MP, Brian Donnelly, wrote a private Member's Bill that banned hitting a child around the head or using implements to punish them, and wanted to specifically define what people were able to do, but later withdrew his bill in 2002 because he did not believe there was the support for it (Donnolly, 2007).

The proposed legislative change on the physical discipline of children ran parallel to several high profile child abuse cases, an increased public awareness of child abuse, international reports that stated New Zealand was not in line with its ratification of Article 19 of CRC, and was preceded by various reports and books advocating on behalf of children within a New Zealand context (Reid, 2006; Ritchie, 2002; Smith, et al., 2005). Broader issues surfaced during the debates over the legislative changes to allow or prohibit the physical discipline of children for disciplinary reasons. The discussions on children's rights and how New Zealand fits within the frameworks of international law and conventions and how that relationship is understood links more directly to the way parents and caregivers relate to their children.

Various aspects of the events that preceded the Crimes (Substituted section 59) Amendment Act 2007 are relevant. The shift in attitudes and beliefs about acceptable consequences for offenders, children's rights and parental discipline is evident in the legislative changes over the last 50 or so years. In 1961 the *Crimes Act* (that also included section 59) included sections that many recognise from the English legal system. For example, young male offenders were to be flogged, and this only changed when The Crimes Amendment Act 1941 abolished judicial flogging. The New Zealand Department of Social Welfare, established a policy that physical discipline in foster homes was no longer acceptable in 1991 (Wood et al., 2008). There have been other amendments to the *Crimes Act 1961* through the years that reflect the changing attitudes and beliefs about what is considered acceptable consequences for offenders.

As previously mentioned, the terms in national legislation receive much focus, and the term "force" was very controversial in the effort to repeal section 59 of the *Crimes Act* in New Zealand. Terminology in related legislation created confusion as well. The changes in the legislation resulted in an amendment to sections 139A(1) and (2) of the Education Amendment Act 1989, prohibited the use of physical discipline by staff and teachers in all New Zealand state and private schools ("Crimes (Substituted Section 59) Amendment Bill," 2007). Although physical punishment was abolished by teachers in New Zealand Schools in 1990, it continued with some schools and parents. Indicative of another legal loophole of the legislation, if the parents were the ones that imposed the physical discipline on the school grounds it was still legal.

Traditionally corporal punishment was sanctioned in courts, prisons, the church, and almost all major social institutions (Steinmetz & Straus, 1974). In the OECD countries, only the U.S.A. and parts of Canada and Australia still allow smacking in schools (Regoli, Hewitt, & DeLisi, 2014). In fact, for most child care settings and schools in the world physical discipline of children is no longer allowed (Bitensky, 2006), or legislation is in the process of changing. An example of legislation that has not yet caught up with what is happening at the grass roots level is in the Cook Islands, where some teachers have lost their registration over smacking at school although the legislation still allows it (G. Townsend, personal communication, 28 May 2012).

New Zealand is the first English speaking country and the eighteenth nation to change the legislation on the physical discipline of children (Wood et al., 2008). Since the first country that instituted a total ban on corporal punishment was Sweden in 1979, by the time Sue Bradford's Bill was drawn in 2005 the countries that attained full prohibition of smacking included not only Sweden but Finland, Norway, Austria, Cyprus, Denmark, Latvia, Croatia, Bulgaria, Israel, Germany, Iceland, Ukraine, Romania and Hungary. During the same year New Zealand changed its legislation Greece, Netherlands, Portugal, Uruguay, Venezuela and Spain were added to the list. Many countries continue to grapple with the legal intervention on the use of physical force to discipline children and, similar to New Zealand, expand the debates to include the role of government and human rights issues.

Summary

There were clearly many influences on attitudes towards the physical punishment of children in the lead up to the 2007 legislative reform. Legislative change for what is considered assault has changed on national and international levels, and it was not only the influence of the political context but also the historical and social context that created the climate for change in legislation. The substituted section offered was a removal of the legal defence to use force with children in the name of child discipline in New Zealand. The focus on Article 19 of CRC illuminates some of the confusion that lies beneath the debates on the smacking of children since discussions on smacking often lead to children's rights and how violence is defined.

Given that smacking was neither banned nor repealed in 2007, and that the amended legislation in 2007 repealed the existing section 59 and substituted a new section 59 to the principal act, officially the use of physical force with children may still be used for disciplinary or corrective reasons. However the legal loophole to invoke section 59 in cases of assault was removed. What has basically changed is the wording of the law that allowed parents or caregivers to physically abuse a child with the pretext of discipline. This chapter provides the historical, social and political context that surrounded the legislative change for the Crimes (Substituted section 59) Crimes Act 2007 that came into force on 21 June 2007.

The growing human rights movement and the influence of technology on international treaties and globalisation are shown through the legislative changes for the physical discipline of children. Until recently, the ordinary terms used in Article 19 of the Treaty were broad enough to include (or exclude) smacking. Whether or not one considers smacking as child abuse has had a significant effect on how CRC is interpreted.

To return to Shaw and Eichbaum (2005), quoted in the epigraph at the beginning of this chapter: "Policies also embody assumptions about things on which virtually all

80

of us have something to say: what governments should get involved in, or stay well clear of, and the rights and duties of individuals, families/whanau, and communities" (p. ix). This chapter has outlined a policy issue in which government and legislature had things to say and to which many New Zealanders responded to forcefully. It received wide media coverage, was captured by interest groups on both sides of sharply divided opinion, and produced intense confusion around what was really at stake. One group whose voices were not clearly heard in any of this calumny were the voices of New Zealand mothers and it is to this group that this research will turn in subsequent chapters. However, before their voice comes to the stage, the discussion in the next three chapters refocuses attention on the issue of discipline for children. Chapter 4 examines five conceptual and theoretical framings that explore the links between the individual and the social (Urie Bronfenbrenner's Ecological Model); the link between the individual child and its parent (attachment theory); two models that explore the links between children and their future as prospective parents (the Violent Matrix Model and the Cultural Spillover Model) and Franz Fanon's model of the political and social implications of interpersonal violence. These precede the discussion of physical discipline.

CHAPTER 4 - ECOLOGICAL PERSPECTIVES

...where the personal leads to the sociological... (Bourdieu, 1999, p. ix)

Introduction

Ecological frameworks provide a structure and shape that facilitate greater clarity on various levels from the macro to the micro and how those levels interact with one another. Frequently used to further understand the multiple variables amongst such disciplines as health, politics, and ecology, ecological frameworks may be used to further understand child maltreatment. Up to the 1960s, Western research focused on understandings of violence based on the behaviour of individuals, with little consideration or regard given to issues of culture or context. Psychological approaches, both Freudian and others, focused on the person and simply did not consider context in their analysis of violence (Chalk, 2006).

In the present study, child discipline, physical punishment and violence are examined through an ecological framework. The connection between the mother (intrapersonal level) and her relationship with her child(ren) (interpersonal level) and how that manifests as a parental style for disciplinary purposes is at the core of an ecological perspective (Belsky, 1980; Bronfenbrenner, 2005b; Garbarino, 2005; Gelles & Straus, 1987; Zigler, 1978). The analysis of the field work undertaken in this research to identify and examine the social perspectives articulated by mothers in relation to the issue of physical discipline is filtered through this ecological lens so it is important now to describe and explain such an approach.

In general, the ecological perspective maintains that the development of the individual does not happen in isolation. Rather, the ecological perspective frames the opportunity to understand the relationships between the individual and their environment with interactions between the two, and acknowledges that individuals live in a wider system. The theoretical contributions of key writers such as Bronfenbrenner, Belsky, Garbarino and Bowlby provide conceptual frameworks for studying violence, family violence, child abuse, physical discipline and the individual through an ecological perspective. Firstly, Bronfenbrenner's development of the ecological theory and the influences that shaped his ideas will be discussed. Next, Garbarino and Belsky's development of the model contribute to the discussion

to further understand how a parent might develop abusive tendencies toward their children. Belsky's (1993) addition of the Ontogenic Level leads to Bowlby's (1958, 1982, 1988a) attachment theory that includes how a child (who may one day grow to be a parent) is socialised and the influence of attitudes and beliefs on the discipline of children. A brief overview of the work of Ainsworth (1989) and Main and Solomon (1990) who suggest that healthy early childhood experiences are critical for the healthy development of a child who might later become a parent is also included.

There are other theorists and theories included in this brief overview where the focus is on the linking of the individual to the interpersonal. This is by no means a comprehensive survey of possible literature in this field but is designed to identify a range of ideas relevant to repositioning debates about physical discipline. The Violent Matrix Model (James et al., 2003), the Cultural Spillover Theory (Straus, 2008; Straus et al., 2014; Straus et al., 1980), and Fanon's perspective on violence and colonisation (Fanon, 1965, 1968) will be introduced.

The Violent Matrix Model is similar to Bronfenbrenner's ecological model, although it approaches violence from more of an overlap of the intrapersonal to the interpersonal than an embedded concept. The Cultural Spillover Theory suggests that the more society accepts the use of physical force in one area, the more likely that acceptance will extend to other areas of violence that are less acceptable. Fanon's theory of violence contributes to further understandings of how parental styles might be affected by one's own personal anger.

Bronfenbrenner's Bio-Ecological Theory

Bronfenbrenner's perspective has had a profound influence on the field of violence research and child maltreatment (2005b; Cicchetti, Toth, & Lynch, 1997; Lerner, 2002; Pinquart & Silbereisen, 2004). It is evident that the ecological model is frequently adapted and employed as a way to understand violence. For example, the WHO report on violence referred to in the previous chapter employed an ecological framework for their discussion on violence (Krug, Dahlberg, et al., 2002). Now it is widely accepted that the environment affects human development. Bronfenbrenner's ecological model is crucial to the aims of the present study given its focus on the connection between the individual, the interpersonal, and the social.

Links between the individual and the social are frequently indicated in the literature on violence at national and international levels. For example, the New Zealand submission to the United Nations Study on Violence (Newell, Hodgkin, & Unicef, 2007) expresses the opinion that "... it is unlikely that work to reduce violence to children will be successful if it is separated from work to reduce wider societal violence" (p. 8). UNICEF (2003) wrote on the cover page of their annual report on child maltreatment that "the challenge of ending child abuse is the challenge of breaking the link between adults' problems and children's pain". Similar statements that intuitively link the intrapersonal, the interpersonal and the social are often noted in reference to violence. For example, in her autobiography Kate Adie (2002), a high-profile British war correspondent, wrote that "civil war is domestic violence writ large" (p. 299). A further example includes the conceptual frameworks of violence by Jamil Salmi (1993), who maintains that "just as the types of violence in a society will be reflected in school, the types of conflict will be reflected too" (p. 95). The application of the ecological perspective, which recognises the complex interactions and overlap between the intrapersonal, interpersonal and social, contributes to the analysis of the data for the current study.

Previous to the development of the ecological theory by Bronfenbrenner, research on children's development consisted mainly of studies in the laboratory with much research focus on the child rather than the child in context at home, school, or on the playground (Lerner, 2002). The underlying premise of Bronfenbrenner's ecological theory is that humans do not develop in isolation and that complex and diverse influences of the family and social environment shape individual development and behaviours. The impact of Bronfenbrenner's work has been extended to other aspects of the socialisation experience, and various disciplines recognize the link between the individual, interpersonal, and social.

Related to the ecological perspective is the systems perspective, where one part of a system cannot be understood in isolation from the other parts, that is, child abuse cannot be understood outside the context of what is happening in the family (Pinquart & Silbereisen, 2004). In psychological terms the relationship between abuse and the context in which it occurs is referred to as systemic violence (Flannery, 2005). Gregory Bateson, an anthropologist, also maintains that

individuals can be understood only within their ecological context (Bateson, 2000). In epidemiology this is referred to as the ecosocial perspective (Krieger, 2001).

More specifically, the link between the individual, interpersonal and social is applied through various issues. Belsky (1981), Bronfenbrenner (1977), and Cmic, Greenberg, Ragozin, Robinson and Basham (1983) emphasise healthy child development and the important relationship between healthy families and healthy communities; Belsky (1980) and Bronfenbrenner (1979) examine the critical need for communities to support the efforts of families to raise healthy children; and Cairns and Cairns (2005), Kreppner and Lerner (1989) and Pinquart and Silbereisen (2004) identify the significance of the mother's relationship with her partner for the quality of a child's socialisation experiences. Such examples represent only a few of the associations developed as a result of the ecological theory.

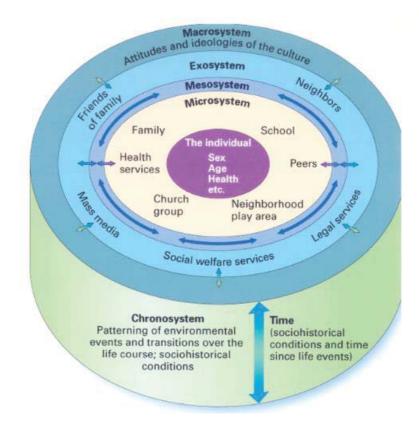
There were other theorists whose perspectives on the link between the individual and the social influenced the development of the bio-ecological model. One theorist who particularly influenced Bronfenbrenner and provided the foundation for the development of his conceptual framework is Vygotsky (1962, 1978). Vygotsky, in turn, was highly influenced by Lewin who also in turn was highly influenced by Stern's work from the early 1900s (Stern et al., 1998). Lewin (1936) claims both the individual and the social are significant, and emphasises that it is not enough to focus on only the past of an individual, that the present context of an individual must also be considered. Lewin (1936) also maintains that a change of environment may effect a change in behaviour, a point easily identifiable in Bronfenbrenner's ecological theory. Each of these key theorists approaches the link between the individual and the social differently (Wong, 2001). Also, Bronfenbrenner integrated Elder's life course principles into the bio-ecological model (Elder, 1998). Vygotsky argues that child development is influenced by interpersonal communications and relationships as well as culture, that different individuals may interpret the same environments differently. Thus the emotional experiences of an individual may reflect that interaction between an individual and his/her environment.

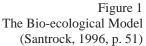
Even though an individual's beliefs and social communication are linked, Vygotsky (1978) stresses that beliefs and social communication can be quite different.

Vygotsky's cultural-historical psychology was criticized as much for its political implications during the Stalin era as for its being idealist. However, traces of each of these contributions are evident in Bronfenbrenner's ecological model. Bronfenbrenner acknowledges, in particular the work of Vygotsky and his emphasis on the individual in context for the development of the ecological model.

Bronfenbrenner was a developmental theorist, and initially developed a sociocultural view of four types of systems: the microsystem, the mesosystem, the exosystem and the macrosystem (Bronfenbrenner, 1979). The useful framework of the ecological model for the study of violence includes the more familiar references to the individual (for the microsystem), relationship (for the mesosystem), community (for the exosystem) and societal (for the macrosystem). The previous literature chapters work on these levels to the extent that the debates, as reported around section 59, were occurring in the macrosystem (government and legislature), being filtered and strengthened in various parts of the exosystem (media, churches, etc.) and having impacts on the microsystem (family relationships).

An overview of the interrelated systems of the ecological theory is necessary to distinguish the variations with respect to the individual and society. These four systems, or levels, are nested, rather than overlapped (Belau, 2008; Fanon, 1994; Puwar, 2001), in a series of concentric circles that range from the innermost representing intrapersonal factors to the outermost, which represent increasingly social factors, each resting within the next, as illustrated in Figure 1:





Bronfenbrenner (1977) begins his theory with the individual placed in context in the environment, the "microsystem". The microsystem is the starting point of the system in which the child is immediately placed in relationship to their environment through contexts such as family and home, school, friends, neighbourhood, or church (Bronfenbrenner, 1977). Usually the family has the most influence on teaching a child how to live (Swick & Williams, 2006) given the daily exposure to attitudes, beliefs and behaviours of the primary caregiver(s).

The second system, the "mesosystem", refers to the connections between the microsystems, and consists of the network surrounding and interacting with a child (Bronfenbrenner, 1977). The mesosystem acknowledges that what happens at home may affect what happens at school and vice versa, with the interactions that take place between mother and child, child and father, child and teacher, sometimes referred to as bi-directional as the influences go in both directions (Lerner, 2002).

The third system, referred to as the "exosystem", places a child and their family within larger social structures. The exosystem is more of a psychological than social setting, and refers to environmental settings that affect development. The exosystem can have a significant but indirect effect on a child. For example, a parent may feel stress from a work situation and punish a child more severely than usual (Belsky, 1984). Poverty, unemployment, and socioeconomic status are further examples of the exosystem (Gelles & Straus, 1987), with several aspects of the exosystem related to child maltreatment (Bronfenbrenner, 1977; Lerner, 2002). A child traditionally viewed in the context of a mother/child relationship, now considered too narrow a focus, is viewed in the context of broader relationships of father, siblings, cousins, and so on and even beyond the family context to the wider community, peers, school, and neighbourhood (Belsky, 1984).

Bronfenbrenner (1977, 2005a) also noted the influence of the larger systems of societal values and political trends and referred to this level as the "macrosystem". The macrosystem consists of social norms, laws, historical events, cultural beliefs, attitudes, and ideologies that influence other ecological systems such as Eastern versus Western culture, democracy, ethnicity, political culture, and subculture (Bronfenbrenner, 1977). According to Cicchetti and Lynch (1993), it is the beliefs and values of a culture that contribute to the continuation of child maltreatment that are included in the macrosystem.

The fifth system, added much later and referred to as the "chronosystem", basically refers to the impact of change on an individual's development with the passing of time, with change evidenced not only in the individual but also in their environment (Pinquart & Silbereisen, 2004). Environmental events and transitions, historical conditions, and the effects created by critical periods in development, either externally or internally imposed, are included in the chronosystem (Bronfenbrenner, 2005b). The ecological model has widely influenced the way human beings and their environments are studied.

The events of 11 September 2001 and the destruction of the Twin Towers in New York as part of four coordinated terrorist attacks by al-Qaeda on the United States in New York City and Washington, D.C., motivated Professor Urie Bronfenbrenner, at 88 years old, to modify the model with a significant addition, the role of the individual. Aware of the potential influence of the bio-ecological model to further advance human health and development both individually and collectively (Bronfenbrenner, 2005b), he recognized the ecological theory was incomplete, and in his final scholastic work integrated the individual level (Lerner, 2002). Bronfenbrenner regretted the absence of the role of the individual in his earlier definition of the microsystem, and the effect this omission had on contemporary research that created a focus on context without personal development (Bronfenbrenner, 2005b). Bronfenbrenner writes:

An examination of the now substantial body of research conducted within an ecological perspective over the past decade reveals a striking imbalance existing studies in the ecology of human development have provided more knowledge about the nature of developmentally relevant environments, near and far, than about the characteristics of developing individuals. (pp. 107-108)

Although the system is still frequently referred to as the ecological theory, Bronfenbrenner's refinement on the theory added "bio" in the name to indicate the combination of biological dispositions and environmental forces that shape a child's self-esteem (Bronfenbrenner, 2005b). It is therefore appropriate to refer to Bronfenbrenner's ecological model from this point forward as the bio-ecological model. The influence of the bio-ecological model significantly shifts the way violence is understood.

The diagrammatic version as illustrated in Figure 2 below is an example of how the bio-ecological model is applied by the WHO for an international report on violence:

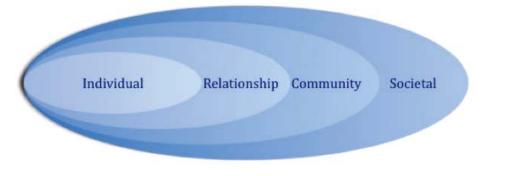


Figure 2 Ecological model for understanding violence (Krug, Dahlberg, et al., 2002) The main criticism of the bio-ecological model is that the greater emphasis placed on the individual in context rather than the intrapersonal level of the individual delayed efforts to further understand violence and reduce child maltreatment (Cicchetti & Lynch, 1993). Bronfenbrenner's theory lacks focus on the ontogenic level, which some view as a significant inadequacy of the model (Engler, 2007).

The influence that parents have on the guidance of children is generally agreed as significant, and for many years numerous studies have established the effects that parents have on their children and that of the socialisation of children in the process of human development. Well-known researchers include Freud's (Akavia, 2005) identification or Kohlberg's (Kohlberg, Levine, & Hewer, 1983) study of moral development. Even with the addition of Bronfenbrenner's bio-ecological theory that now acknowledges the individual at the centre, many studies continue to focus on the individual in relation to others – in context – rather than on the individual's attitudes and beliefs (Belsky & Jaffe, 2006; Lerner, 2002). In particular, there is very little information available on the socialisation of children with respect to physical punishment, and how that influences or guides their attitudes or beliefs as they grow into adulthood, or how that might impact on their relationships or on their own child rearing practices (Holden & Zambarano, 2014).

There are now studies that claim that the best predictors for the level of conflict in a society are variables relating to child rearing and socialisation (Kliewer et al., 2006; Staub, 2013; Stith et al., 2000). Given that Bronfenbrenner's (2005b) original theory did not account for the personal history, attitudes or beliefs an individual might bring with them to the parenting role, in particular parents who mistreat their children (Gelles & Straus, 1987; Kaufman & Zigler, 1987), it is relevant to consider whether the physical punishment of children is one of those variables of socialisation that is a predictor of conflict in society.

James Garbarino was the first to adapt Bronfenbrenner's model to further understand the complex nature of child maltreatment. Garbarino focuses on intersystem relations and is the author or co-author of *Adolescent Development: An Ecological Perspective* (1985), *An Ecological Approach to Child Maltreatment* (1979), *Corporal Punishment in Ecological Perspective* (2005), *Parents Under Siege: Why* you are the Solution, not the Problem in your Child's Life (2002), The Human Ecology of Child Maltreatment: A Conceptual Model for Research (2011) and The Psychologically Battered Child (1986) to name a few. He is a prolific advocate for the concept that the environment a child grows up in is critical for the prevention of violence.

A former colleague of Bronfenbrenner's, Jay Belsky, connected Garbarino's ideas to the bio-ecological system with the introduction of what is now referred to as the ontogenic level. Belsky, like Garbarino, drew heavily on Bronfenbrenner's (1979) theoretical perspective. In addition, Belsky drew from Tinbergen's (1963) scientific development on the origin of certain types of behaviours in animals to conceptualize how a parent grows to behave in an abusive or neglectful manner (Belsky, 1980; Berger, 2005; Scannapieco & Connell-Carrick, 2005). Tinbergen (1952) identified internal and external stimuli that affect the central nervous system that resulted in particular behaviours. The ontogenic level emphasises the role of the individual in personal development (Belsky, 1993) and links the development of violent behaviours with child socialisation.

The ontogenic level refers to the personal characteristics of the individual such as attitudes, and beliefs (Cicchetti & Lynch, 1995), socio-demographic details such as gender, age, education and economic situations, personality characteristics, and self-esteem (Belsky, 1980; Belsky, Jaffe, Sligo, Woodward, & Silva, 2005). In essence, the personal factors included in this ontogenic level include (in psychological terms) intrapersonal ones, and represents what an individual brings with them to their role as parent and their parental relationship with the child (Belsky, 1984). The introduction of the intrapersonal level to the bio-ecological model makes a specific link between adult problems and child abuse and is now acknowledged in much of the literature (Belsky, 1980; Bronfenbrenner, 2005b; Bulhan, 1985; Cicchetti & Lynch, 1993; de Rivera, 2004b; Doolan, 2004b; Fanslow & Robinson, 2004; Gershoff, 2002a; Gil, 1975; Miller, 2002; Osofsky, 1999; Ritchie, 2002; Shaw & Eichbaum, 2011; UNICEF, 2003; Vygotsky, 1978).

There is little controversy about the connection between stress and the difficulty to parent well, with the association between socioeconomic status (SES), stress and

aggression well documented in the literature (Anderson, Kirkman, Browne, & Lynam, 2007; Bandura, 1978; Casey, Schumm, Marshall, Panuzio, & Holtzworth-Munroe, 2008; Esposito & Kobak, 2005; Hecht & Hansen, 2001; Teicher, 2010). However, Grogan-Kaylor and Otis (2007) make the distinction that it is not poverty or lower SES, but rather the relationship between the economic factors and stress, with stress the primary predictor for abuse (Burrell, Thompson, & Sexton, 1994; Guterman, Lee, Taylor, & Rathouz, 2009).

Stress for a parent may be due to problems associated with depression or anger (Lahey, Conger, Atkeson, & Treiber, 1984; Lerner, 2002; Whipple & Webster-Stratton, 1991), relationship conflict (Anderson et al., 2007; Blakely, Collings, & Atkinson, 2003; Fergusson, Boden, & Horwood, 2008), minimal parental support or sole parenthood (Anderson et al., 2007; Jenkins, Simpson, Dunn, Rasbash, & O'Connor, 2005; Straus & Mathur, 1996) or other factors such as drugs, alcohol and poverty that appear significantly correlated to child maltreatment (Bardi & Brgognini-Tarli, 2001; Flynn, 2000; Gaudiosi, 2004; Grogan-Kaylor & Otis, 2007; Gullone & Clarke, 2006).

Another major contributing factor to child maltreatment and family violence, mentioned in Chapter 2, is the issue of power in relationships. Although it is not within the scope of the present study to examine power, it is noted that the WHO definition includes power in their definition of violence. The effects of inequality on the power imbalance is substantial (Lamont, 2009). Although the specific variables mentioned above are not the focus of the present study, it is critical to note the predictors and indicators of child maltreatment, mainly since the ecological model places the individual in relationship to all contextual variables. Particularly salient is the influence of such variables on a parent's response to the misbehaviour (or perceived misbehaviour) of a child.

Complex social and contextual variables often contribute to the increase in the frequency and severity of child maltreatment and family violence, and to the stress of a parent dealing with behaviours of a child, some of which may require a disciplinary response. Despite the extensive research that has been undertaken, however, there appears to be a dearth of literature on the influence of any of the

above-mentioned factors for children smacked (lightly) for disciplinary reasons. Given the assumptions about physical discipline and abuse, discussed in Chapter 2, it is surprising that there is so little research on the relationship between stress levels, anger, frustration, power imbalance or the influence of drugs and alcohol and physical punishment. Findings indicate that it is not as easy to predict the frequency of use of light physical discipline as it is the incidence of child maltreatment (Grogan-Kaylor & Otis, 2007). Analogous to that, some parental styles approach discipline with a conscious effort to guide or teach rather than to simply react to a child's behaviour (see Chapter 5 for further elaboration on parenting styles). Research findings suggest that parents who are highly stressed are more likely to be reactive and smack (Garbarino, 1979, 2005; Gershoff, 2002a; Straus et al., 2014), rather than try to educate a child through a disciplinary response.

There is also evidence of many other connections of violence through the ecological framework. Studies suggest clear linkages between adult partner violence and child maltreatment (Rutchick, Smyth, Lopoo, & Dusek, 2009; Whipple & Webster-Stratton, 1991). The perpetuation of a punitive cycle of behaviours is evident with a parent/caregiver who reportedly uses more verbal and physical aggression, when they themselves have been physically punished as children (Bartlett, 2003; Cast, Schweingruber, & Berns, 2006; Edelson, Hokoda, & Ramos-Lira, 2007; Featherstone & Peckover, 2007; Straus, 2004; Tajima, 2002). Exposure to childhood adversity and risk of later suicidal behaviour (Flynn, 2000; Gullone & Clarke, 2006) has been established, with those most at risk of suicidal behaviour differentiated by multiple childhood disadvantages (Fergusson et al., 2008; Johnson et al., 2002). As mentioned previously with Figure 2, the application of the bio-ecological model is frequently applied and adapted in various ways. Illustrated in Figure 3 is how the intrapersonal level as introduced by Belsky is applied to work with violence in the community:

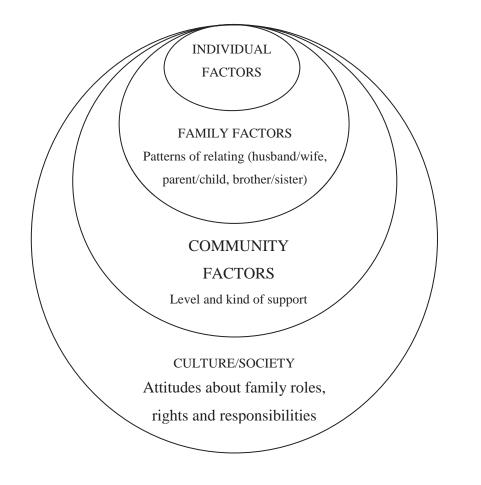


Figure 3 Application of the Bio-ecological Model (1992) Source: Alberta Department of Family and Social Services Office for the Prevention of Family Violence (1992).

The model presented in Figure 3 is representative of the broad assumptions in everyday use about the connection between an individual's attitudes, beliefs and behaviours and violence within the broader social context (Gelles & Straus, 1987; Kaufman & Zigler, 1987) and includes the link between an individual's development and social changes (Belau, 2008; Fanon, 1968; James et al., 2003; Puwar, 2001). The idea that an individual, at the intrapersonal level, holds attitudes, beliefs and behaviours that link to the social level introduces a framework for understanding violence and child maltreatment.

The bio-ecological model also provides a framework to examine the effect of violence and stress on children from an early age. Research indicates that exposure to violence, either individually or in the context of the wider community, has a negative effect on children's behaviour and emotions. Exposure to violence

significantly lowers children's self-esteem, and results in learned helplessness and insecure relationships with others (Cicchetti et al., 1997; Lynch & Cicchetti, 1998). Belsky (1980) maintains that many variables contribute to the formation of an individual and whatever type of disciplinarian they become. The internal working model that serves as a template for relationships with others is established during early childhood experiences (Bowlby, 1982; Scannapieco & Connell-Carrick, 2005). Particularly significant during the first three years of life, such experiences shape the underlying thoughts and feelings brought to adulthood, (Karen, 1994) and parenting behaviours. Of significant importance for further understanding the formation of the individual for ontogenic development is the contribution of Bowlby's (1982) attachment theory that elaborates on child development.

Attachment Theory

That children learn by what they observe is not new (Bandura, 1978; Osofsky, 1995, 2003; Piaget, 1964; Tremblay, 2000; Van Ausdale & Feagin, 2001). Although Belsky (1980) established that personal identity emerges within the family context, it was Bowlby (1982), the pioneer of attachment theory, who established that the early years of socialisation significantly influence how a child relates with others their entire life. Bowlby (1982), developed a conceptual framework to understand the child/parent relationship and how attachments are shaped, developed and grow. Bowlby established that children who experience negative attachment relationships are more likely to develop insecure attachments as an adult (Bowlby, 1988b). To be more specific, when a child comes from a home where child abuse has occurred, the child often responds with aggression, hostility, or with a variety of inappropriate responses (Crittenden & Ainsworth, 1989).

In a New Zealand birth cohort study of more than 200 parents, it was found that mothers interacted with their young children with much more care if they had experienced supportive rearing throughout their own childhood (Vincent, Cook, & Messerly, 1980). In contrast, parents who experience maltreatment as children are predisposed, although not destined, to maltreat their own children (Belsky, 2008; Gelles & Straus, 1987; Kaufman & Zigler, 1989), although there are many adults who are abused or neglected themselves who do not maltreat their own children (Belsky, 1980). The attachment relationship a child develops with his/her primary caregiver(s) is critical to their emotional and behavioural development (Gelles & Straus, 1987; Kaufman & Zigler, 1987). According to attachment theory, primary caregiver(s) have a significant role in helping establish an internal working model for children that serves as a template of how to live in the world and how to relate to others.¹⁴ This model is carried into the world, to adulthood and eventually to a child's own parenting (Baldwin & Spencer, 1993; Belsky, 1980; Bowlby, 1982; Cicchetti & Barnett, 1991; Cicchetti & Lynch, 1993, 1995; Cicchetti et al., 1997; Levy & Orlans, 1998; Scannapieco & Connell-Carrick, 2005).

Bowlby examines how the attachment behaviours of parents at the microsystem level offer children their first experiences of trust (Brazelton & Greenspan, 2000), with insecure and unhealthy parenting behaviours possibly following a child into adulthood, leading to anxiety, depression, and aggression (Bulhan, 1985; Karen, 1994; Levy, 1943; Pedersen, 1993; Scannapieco & Connell-Carrick, 2005). Caring relationships for a child, on the other hand, can help to influence a healthy personality (Bowlby, 1982; Swick & Williams, 2006). Because the first three years of life are critical, the trauma associated with violence commonly leads to regression in development and interferes with the development of trust and autonomy (Osofsky, 1995). Attitudes, beliefs and behaviours of caregivers, whether conscious or unconscious, affect how children develop in the earliest years of life and help shape the underlying patterns of thoughts and feelings brought to adult relationships (Karen, 1994).

Bowlby's emphasis on the significance of how a child is related to during the early years and the potential damage that is possible with abuse, neglect, and unhealthy

¹⁴ Nancy Scheper-Hughes advocates that it is the internal way of thinking and living that is connected to interpersonal and social violence, and suggests that everyday violence that becomes normalized is what makes structural violence and genocide possible. See *The Genocidal Continuum: Peace-Time Crimes.* In Mageo (Ed.), *Power and the Self* (pp. 29-47) (Scheper-Hughes, 2002).

96

relationships continues to influence research and policies for children. Although Bowlby's theories significantly contribute to the well-being of children there are several criticisms. A key criticism of Bowlby's work is that his work is based on broad assumptions made from limited data (Casler, 1961; Rutter, 1972). For example, Rutter (1972) argues that children were more likely to suffer emotional trauma in families where relationships have been distorted by violence or other unfavourable dynamics rather than families broken by the death of a mother, as Bowlby suggested. In contrast, Joyce and James Robertson (1989), researchers highly influential in the change in policy for mothers to stay with their children in hospitals, worked collaboratively with Bowlby and saw Bowlby's assertions (1952a, 1952b) that unhealthy relationships and socialisation affect children severely validated as a result of their own research.

Mary Ainsworth, another key theorist who collaborated with Bowlby for over 40 years and is recognised for her own work with attachment theory, developed the concept of the "secure base", developed when a parent is available and responsive to a child (Ainsworth, 1989). Ainsworth and colleagues noted that where mothers have responded understandingly to the needs of an infant during the first year of life, the infant not only cries less than the babies of less responsive mothers, but they are more likely to be more cooperative. The development of the child is more likely to be cooperative due in large part to how they are treated (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth's contributions were significant, and she is probably best known for her development of differences in attachment behaviours, by observing infants aged 12 to 18 months. Through a series of separations, reunions and the introduction of a stranger to check the baby's sense of security, three types of attachment were identified. Probably best known for her development of what is now referred to as the Strange Situation Procedure, Ainsworth developed a way of assessing differences in attachment behaviours and the implications of each.

Three attachment categories were developed through the observation of infant's responses to separation from and reunion with the parent. The three classifications are the secure group, the insecure-avoidant group, and the insecure-ambivalent group. Of particular relevance for the purposes of the current study is the development of a fourth attachment style by a colleague of Ainsworth, Mary Main.

Main and Solomon (1990) carefully re-examined and observed the 34 unclassifiable video tapes that were set aside from the 368 mother-infant and father-infant Strange Situations from the Berkeley Social Development Project. The additional attachment style is referred to as the disorganized/disoriented attachment category, which seems to develop when the attachment figure (normally the parent or caregiver) is viewed as safe and dangerous at the same time (Main & Solomon, 1990).

There are further developments with how children develop and respond to parental behaviours. Osofsky (2003) maintains that children learn everything about how to relate to others through observations, including how to resolve conflicts. Even studies with mothers and their new born infants between 2 and 4 days of age indicate significant differences in social responsiveness, irritability, alertness and general responsiveness (Osofsky, 1976).

Much research has been done since the 1970s. Recent findings suggest that the mother's good relationship with the father, family income and social support are also important variables (Huang & Lee, 2008). Other contextual factors, such as maternal well-being and the impact on child development are also significant (Garbarino & Bedard, 2002). In addition, delays in language development, behaviour problems, and lower academic achievement have been attributed to younger or alcoholic mothers who may have an unplanned pregnancy without the broader contextual support or readiness, thus the well-being of the child is affected (Huang & Lee, 2008).

Psychologist Alice Miller (2002) maintains that children who experience feelings of anger and helplessness will repress feelings that, at some point, either consciously or unconsciously, will be manifested through unhealthy relationships directed either toward themselves or others. Durkheim was one of the first sociologists to suggest that society affects health outcomes, and that suicide reflects underlying social values and relations. He also maintains that an individual emotional foundation is established in infancy and childhood (1951). In the context of all this research on attachment and interdependencies between parents, children and their environment is the question of response to physical discipline. Considered the most significant finding on the outcomes of children who have been smacked, is how children internalise and externalise the responses they have to being smacked (Holden, 2002). Examples of internalised behaviours include depression and anxiety, and examples of externalised behaviours include friendship problems and antisocial behaviours (Deater-Deckard, Ivy, & Petrill, 2006). This shift in emphasis on internal control rather than external control reflects a major change in a disciplinary focus. Grusec, Goodnow and Leon (2000) maintain that appropriate behaviour due to internal rather than external factors is not only longterm, but reveals the values that have been internalised.

In summary, the theories of Bronfenbrenner (1977), Belsky (1980), Bowlby (1982), Ainsworth (1978) and Main (1990), as well as many others, continue to provide theoretical foundations to further understand child maltreatment. Physical discipline, child maltreatment, community violence and belief systems merge in the bioecological model, with the individual in a contextual and cultural framework. The impact of how an individual's problems might influence a parenting style or how a child's internal working model impacts their interpersonal relationships well into adulthood is relevant to the present study.

Also relevant to the present study, given that early childhood experiences might influence the development of parenting styles, is the consideration on the nature of childhood and the rights of the child. The legal and social right of parents to use physical discipline indicates something about how children are viewed and to what extent the government has responsibility for protecting children. That children might even need protection from parents has implications for the relationship that exists between a mother and a child, and the link between the intrapersonal and interpersonal.

Bronfenbrenner's bio-ecological theory links intrapersonal, interpersonal, and social violence (Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Lynch & Cicchetti, 1998; Salzinger, Ng-Mak, Feldman, Kam, & Rosario, 2006). For example, the bio-ecological theory connects child maltreatment to domestic violence

and spousal abuse (Kaufman & Zigler, 1987; Rumm, Cummings, Krauss, Bell, & Rivary, 2000; Widom, 1989) and unemployment and poverty (Bateson, 2000). While Belsky focuses on the emergence of an individual's identity within the family context, Bowlby focuses on the significance on the early years of socialisation on a child. Bowlby's underlying premise that the way a child learns to relate is significantly influenced by early years of socialisation leads to the next model that focuses on the overlap of the individual, interpersonal and social violence.

The Violent Matrix Model

The Violent Matrix Model was developed with the goal of providing a clear framework for individuals in violent situations. James and his colleagues (2003) developed the Violent Matrix Model with an adaptation of Bronfenbrenner's (1977) bio-ecological model. They extended Bronfenbrenner's work by making two main changes. Firstly, whereas Bronfenbrenner defines the microsystem as the individual in relationship, the microsystem in the Violent Matrix Model is more personal, and refers to the consciousness of the individual. Secondly, rather than systems embedded within one another as in the bio-ecological framework, in the Violent Matrix Model the systems overlap.

The following figure (Figure 4) illustrates the Violent Matrix Model as an integrated model of violence.

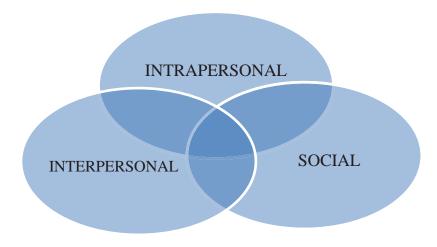


Figure 4: An Adaptation of the Violent Matrix Model of Violence (James et al., 2003, p. 130)

The three general categories of violence are listed as intrapersonal, interpersonal, and social or structural. The interpersonal and social categories are consistent with Bronfenbrenner's macro and mesosystems and relates to systemic and institutional violence. James et al. (2003) suggest that social violence is closely related to

violence. James et al. (2003) suggest that social violence is closely related to violence at the intrapersonal and interpersonal levels, similarly to the bio-ecological model. However, it is at the microsystem level of Bronfenbrenner's model that the Violent Matrix Model challenges the ecological model. James and his colleagues argue that violence at the innermost, or intrapersonal level, is manifested psychologically in an individual's life. Attitudes or self-harm on physical and psychological levels are manifested on the intrapersonal level. Such an admission of the significance of the individual links with Bronfenbrenner's apology for not including the individual in the bio-ecological model.

Parallel to the bio-ecological model, the relationship between the intrapersonal, interpersonal, and social levels are connected. However, rather than a nesting model indicating the embedded nature of the systems, this overlapping model indicates the influence and connection within the systems. The significance to note is that the intrapersonal, interpersonal, and social are linked. The conceptual framework of the individual in context suggested by the Violent Matrix Model is relevant to the purposes of the present study as the mothers who are the subjects in the fieldwork comprise such individuals.

The next theory is referred to in the study of violence (Lansford & Dodge, 2008; Whipple & Richey, 1997) and is included in the current study due to the link between attitudes and beliefs of an individual to affect interpersonal relationships, and is referred to as the Cultural Spillover Theory.

The Cultural Spillover Theory

The Cultural Spillover Theory links what is considered acceptable force with unacceptable force (Lansford & Dodge, 2008; Whipple & Richey, 1997) such as light physical discipline with child abuse. The premise of Cultural Spillover Theory is that the more a society approves the use of physical force in areas such as contact sports, the greater those legitimations of force will "spillover" to other areas such as interpersonal relationships. Cultural Spillover Theory, also referred to as subcultural norms, was originally identified through a study on the link between attitudes towards violence and rape with social indicators of criminal and noncriminal violence (Baron, Straus, & Jaffee, 1988). Examples of Cultural Spillover Theory include the link between boxing or hockey violence and street violence (Bloom & Smith, 1996), corporal punishment and children's cruelty to animals (Bugental et al., 2010), and physical child abuse and child sexual abuse (Ainsworth, 1989). The theory suggests that line between discipline and abuse becomes blurred (Whipple & Richey, 1997). Straus (1980) maintains that the theory highlights the unclear boundaries between acceptable force and criminal use of force.

A recent study links corporal punishment in the classroom with armed conflict (Findley, Beck, Noyes, & van Alfen, 2011) suggesting that individuals are more likely to accept armed conflict due to socialisation that accepts aggression as a way to settle disputes. Such links have also been made in the literature prior to the coinage of the term, Cultural Spillover Theory. For example, the Ritchies (1993) acknowledge links between the individual and different levels of violence which include the personal, interpersonal, social, cultural, and general environment. Their work on violence also includes what some consider violence in contact sports, in a rugby loving nation such as New Zealand, and what that indicates about the culture (Ritchies, 1993).

According to Baron et al.,(1988), Straus and his colleagues developed what is referred to as a Legitimate Violence Index as a way to explain the immense differences between states and incidents of violence The index measures the extent to which violence is used for socially legitimate purposes that ranged from the physical punishment of children to the capital punishment of criminals. They found that the higher the score on the Legitimate Violence Index the higher the rate of criminal violence. There is an overlap here with this theory and the bio-ecological theory as discussed early in this chapter, in particular the reference to systems theory.

The Cultural Spillover Theory does not specifically mention the intrapersonal to interpersonal level, but is included in the present study because there are implications for the argument that the attitudes and beliefs of an individual affect interpersonal relationships, and that aggression and force may cross over to that vague area that may or may not be considered violent. There is substantial research that supports the claim that violence in one area of life tends to bring about violence in other areas (Benbenishty & Astor, 2005; Brewster, 2002; Caspi et al., 2002; Cicchetti & Lynch, 1993; Scheper-Hughes & Bourgois, 2004; Straus & Mathur, 1996). According to Gartner (1990), there are a range of theories that are similar to the Cultural Spillover Theory including the "brutalization theory" of capital punishment (Bandura, 1978), the "cultural legitimation theory" for homicides (Bowers, 1984), the "differential association theory", the "delinquent subculture theory", "social learning theory", and the "social-disorganization theory". All of these provide examples of boundary blurring between physical discipline and violence.

However, if the physical discipline of children is assumed to be a useful disciplinary tool and not connected with violence, these boundary blurring theories would need strong refutation. And furthermore, should they be refutable, the zero tolerance approach of the United Nations Committee on the Rights of the Child would be called into question.

The United Nations Committee on the Rights of the Child has a position on how different types of contextual violence impact on a child. The *Implementation Handbook for the Convention on the Rights of the Child* (Hodgkin & Newell, 2007) emphasises the zero tolerance approach of the Committee:

Different forms of violence against children (such as corporal punishment, bullying, sexual harassment and abuse, and verbal and emotional abuse) are interlinked, and that violence in the family and school contexts reinforce one another. Action against violence therefore must take a holistic approach and emphasize non-tolerance of all forms of violence. Physical violence and other more severe forms of violence are more likely where everyday harassment is tolerated. Tolerance of violence in one sphere makes it difficult to resist it in another. (p. 250)

Such a position is also reinforced by earlier and more politicised understandings of violence such as that articulated by Frantz Fanon, a psychiatrist and philosopher whose revolutionary work sought to connect the impacts of colonisation to the

intractable experiences suffered by both the colonisers and the colonised. From a psychological perspective, he was interested in how violence manifests within the individual and is directly linked to interpersonal and social violence.

Fanon

Fanon's (1965) theory of violence is particularly relevant to the study of child maltreatment, and thus to physical discipline. Fanon's approach to the study of violence includes a close connection between intrapersonal and interpersonal violence (Bulhan, 1985). Fanon (1965, 1968) contends that violence starts with the intrapersonal rather than the interpersonal or social, although he emphasises that social violence has an effect on the individual on an intrapersonal level. While Fanon's particular concerns always centred on political issues, his perspective has wide applications with reference to the various levels of the bio-ecological framework. Fanon maintains an individual is not only related to society, but that there is the possibility, even the expectation, for social change through the actions of the individuals even though always in context" (Lawrence & Karim, 2007, p. 5) suggests a link between the one doing the violence, the one experiencing the violence, and society at large.

The Fanonian perspective has received both praise and intense criticism. Such a suggestion, that the individual is connected with interpersonal or social violence, received wide criticism in the 1960s, and Fanon's theory was considered controversial, naïve, and unrealistic (Bulhan, 1985). Fanon's psychoanalytical training influenced his argument that violence in the ghetto is often frustration and anger turned inward against the self because the "true" target group cannot be reached (Bulhan, 1985; Fanon, 1965). That anger within an individual, expressed for example by self-harm, (Nock, 2009) links to interpersonal violence is a well-argued concept (Britt & Garrity, 2006; Gardner & Moore, 2008; Gelles, 1975; Koziol-McLain, Rameka, Giddings, Fyfe, & Gardiner, 2007).

Fanon maintains that an individual's attitudes and beliefs are a critical part of consciousness raising, and clearly sees the connection between individual morality, politics (Jinadu, 1986) and social responsibility (Fanon, 1965). However, when

studied closely, Fanon's (1965) attention focuses on the belief systems beneath the behaviours, that is, the attitudes that lead to colonization, which "in itself is the incarnation of violence" (Martin, 1970, p. 391). Fanon also maintains that violence does not rely on intention but on consequence. This concurs with the seminal work of Gil (1979) and Bulhan (1985). The shift in focus from intention to consequence adds to the complexity of violence.

Fanon's conceptual link from an individual's beliefs, attitudes and behaviours to national and international consciousness is exemplified in the conclusion of his address at the Second Congress of Black Artists and Writers in Rome in 1959:

If a man is known by his acts, then we will say that the most urgent thing today for the intellectual is to build up his nation. If this building up is true, that is to say if it interprets the manifest will of the people...then the building of a nation is of necessity accompanied by the discovery and encouragement of universalizing values. Far from keeping aloof from other nations, therefore, it is national liberation that leads the nation to play its part on the stage of history. It is at the heart of national consciousness that international consciousness lives and grows. And this two-fold emerging is ultimately only the source of all culture. (Fanon, cited in Adams & Searle, 2005, p. 1202)

One major criticism of Fanon's thinking is that while his theory might benefit individuals and possibly families or small groups, it does not benefit societies (Bulhan, 1985). Another is the interpretation of his perspective as "methodological individualism" (Jinadu, 1986), a term frequently in use since the 1960s in the sociological literature. The concept of methodological individualism remains highly contested (Hodgson, 2007) and there is no consensus yet as to its definition (Hodgson, 2007). It often refers to individuals alone or individuals plus other critical factors (such as interactions between individuals), yet this distinction is critical (Hodgson, 2007). Popper (1945) was quite specific with his definition of methodological individualism and writes "It rightly insists that the 'behaviour' and the 'actions' of collectives, such as states or social groups, must be reduced to the behaviour and to the actions of human individuals" (p. 101). In other words, the collective has its own morality, but human beings are involved. Confusion around the conceptual problems surrounding the term "methodological individualism" is understandable given the individual is a social being in relation to others, within a cultural context. It has been suggested a new terminology is needed to explain this phenomenon of the individual rather than trying to make the old one fit (Hodgson, 2007; Lukes, 1968).

One particular study that illustrates Fanon's theory of the link between the intrapersonal to the interpersonal involves a group of violent youth (Bemak & Keys, 2000). The focus with the youth began with themes in their lives that made them angry, rather than working directly with their behaviour.¹⁵ The anger and violence within the members of this group significantly decreased during the first three sessions. During those sessions anger or management strategies were not even mentioned. Rather, the focus was on the inner worlds of the students and they spoke about issues such as inattentive parents, bossy teachers, rejection by peers, lack of friends and poor marks (Bemak & Keys, 2000).

Such an example supports Fanon's (1965) belief that any transformation of society needs attitude and psychological changes from individuals, and that it is critical that individuals know that they are not powerless and can bring deliberate social transformation. In such a claim, Fanon is revolutionary: suggesting agency amongst even the most apparently powerless. While there is not space in this thesis to argue about the impact of Fanon's thinking in the postcolonial context, his work has strong resonance in New Zealand in relation to its relatively recent colonial past. The links between the violence of colonisation and the ongoing high levels of violence in Aotearoa are subject to ongoing contestation with consistent evidence of the kids of impacts Fanon outlines. (See, for example, (Dobbs & Eruera, 2014; Huygens, 2011; Jackson, 2012; Lievore & Mayhew, 2007).

¹⁵ See *Nonviolent Communication* by Marshal Rosenberg (1999) for his theory elaboration on how most conflict arises from an individual's unmet needs, and that it is our lack of ability to communicate that is the course of much anger, aggression and conflict.

Similar to Belsky adding the ontogenic level to Bronfenbrenner's theory, Bulhan (1985) built on the work of Fanon and added institutional violence to his theory. According to Bulhan, there are four rather than three forms of violence: intrapersonal, interpersonal, institutional, and social. Bulhan (1985) suggests intrapersonal and interpersonal violence are the easiest to distinguish since they are identifiable on an individual level, and often occur at a specific time and place. An example of intrapersonal violence, violence directed toward the self (James et al., 2003) is suicide (Bulhan, 1985), whereas an example of interpersonal violence, "violence between and among individuals and groups" (James et al., 2003, p. 131) is homicide (Bulhan, 1985). The link between the intrapersonal to interpersonal is not new in sociological (Bourdieu, 1999; Bronfenbrenner, 1979; Freire, 1970; Merleau-Ponty, 1968), psychological, or spiritual paradigms (Bateson, 2000; Galtung, 1969).

Central to each of the theories and theorists discussed in this chapter, is that the individual, interpersonal and social are not only related but also have an effect on each other (Belau, 2008; Bourdieu, 2000, 2001; Lane, 2000; Yacine, 2004) and that such an understanding is critical to further understand violence in society (see Bourdieu's quote in Chapter 1).

Summary

Many theorists examined in this chapter emphasise the individual in context. How that individual relates to others, including how to handle frustration, anger and stress and how to manage conflict manifests either consciously or unconsciously in attitudes, beliefs and behaviours. Variables such as poverty, alcohol and drugs may contribute to violent behaviours, but it is more how those variables are integrated by an individual than the contributing variable itself. Likewise, variables such as a power imbalance (frequently referred to in the literature on violence), experiences of trust and autonomy, and exposure to various antisocial behaviours indicate healthy or unhealthy patterns of relating that reveal what has been internalised during the socialisation process.

Based on the premise that an individual's emotional foundation is established in infancy and childhood, the impact of smacking on a child's underlying thoughts, feelings, and ability to relate becomes critical information. In keeping with the bioecological framework, emphasis for the current study is based on the premise that regardless of where violence begins, it is manifested in the world through the contextualised individual at the intrapersonal, interpersonal, and social levels, and is often not identified as violence. In addition, the relationship between a child and his/her parent and how that is expressed through the parental style adopted (as per the Brown Report mentioned in the Introduction) link with the "best interests of the child" as referred to in definitions of violence in the international legislation mentioned in Chapter Two. This concept needs to be considered with respect to the socialisation of a child.

Culture, context, and early childhood and experiences help form a child's way of being in the world and how to relate to others. Since an individual's emotional foundation is established in infancy and childhood, then however smacking affects a child's underlying thoughts, feelings, and ability to relate is critical information. Since the 1960s, understandings of violence focused on the intrapersonal, interpersonal, and/or the social. The theories and frameworks in this chapter suggest there is a relationship amongst all three. For example, it is understood that a parental style, although formed through complex and interwoven factors, is developed through attitudes and beliefs held at the ontogenic level, that is, within the inner self of the individual. Parental style will influence the manifestation of relationships which can be examined through the social context of physical discipline and violence. The key issues regarding physical discipline and its efficacy for the discipline of children is examined in the next chapter.

CHAPTER 5 - PHYSICAL DISCIPLINE

By examining the larger cultural fabric in which the individual, the family, and the community are inextricably interwoven, we can analyse the role of the macrosystem in child maltreatment. In so doing, we can shed still more light on the complex web of causative agents that conspire against the child and the family by fostering child abuse and neglect. Most evident in this role are society's attitudes toward violence, physical punishment, and children. (Belsky, 1980, p. 328)

Introduction

As mentioned in the Introduction, New Zealand has the third highest child homicide rate in the OECD countries. During the 15 years that followed the 1979 Swedish law reform to implement a ban on the physical discipline of children, four children died from child homicide in that country. New Zealand, with less than half the population of Sweden, had 91 children die from child homicide during that same period (Durrant, 2000; Whipple & Richey, 1997). Statistics that link the effect of the Swedish law reform to the reduction of child homicides are compelling.

Prevalent in discussions on the physical discipline of children are debates on discipline, whether guidance or punishment; rights, whether children's or parents; and the role of government. Since much of the research on child abuse assumes that smacking is part of the definition of child abuse – and thus violent – it is necessary to include the child abuse and violence literature, where relevant. Also highly significant to the current study is the literature concerned with Sweden being the first country (of now approximately 43) to implement a ban on the physical discipline of children. This has triggered much debate in the literature and is also relevant to the present study. Context is an important consideration within these debates, with deeply embedded cultural values and religious beliefs often integrated in child disciplinary practices. This chapter examines the key arguments and issues that arise in literature about the value and efficacy of physical discipline, the violence continuum, and parenting styles.

Violence and the Swedish myth

The concept of the continuum of violence was introduced by Straus, Gelles and Steinmetz's (1980) research on violence within families. While there are similar theories such as the "time line" concept that connects punishment and aggression (Benjet & Kazdin, 2003), the continuum theory as defined by Straus et al. (1980) contends that smacking is part of the aetiology of violence and that there is an association between smacking and child homicide, that they are part of the same spectrum. Significant to note here is that the focus is not on child homicide, per se, but is on the impact of physical discipline.

Straus (1980) has been an advocate for a total ban on smacking since he introduced the theory, which has provided the foundation of nearly all research and policy on family violence since the 1980s (Wolfner & Gelles, 1993). The 1980s marked a significant shift in the study of family violence (Straus & Gelles, 1986). Although identifying that conflict is part of the human condition, Straus emphasises the significance of the response to conflict. Straus also developed the Conflict Tactics Scale (CTS), a frequently used measure. The CTS is not intended to measure attitudes or beliefs, rather it examines measurable behaviours and is widely used as a reliable and valid measure of family violence (Straus, Hamby, Boney-McCoy, & Sugarman, 1996).

The CTS was used in a Canadian study on the impact of physical punishment on later adult psychopathology. Three categories of childhood difficulty included no physical punishment or abuse, physical punishment or abuse, and abuse. The study included 5,838 respondents, where 48% reported experiencing only physical punishment (and no child or sexual abuse or neglect). Physical punishment was associated with greater depression in adulthood than no physical punishment, and those who experienced child abuse reportedly experienced greater problems in adulthood such as major depression, alcohol abuse or dependence, and externalizing problems in adulthood. Those who experienced no abuse at all reportedly had far fewer problems (Afifi, Brownridge, Cox, & Sareen, 2006). Significantly, individuals who were physically punished were more likely to experience low parental warmth and less parental protection than those who experienced abuse, which is consistent with similar research findings (Deater-Deckard et al., 2006; Fergusson & Lynskey, 1997).

Advocates for the continuum of violence theory maintain that the concept provides a language to understand what leads to abusive behaviours and is critical to further understand the complexity and range of abuse (Kelly, 1988). However, not everyone agrees that the theory of violence includes a smack. Gelles (1991), a researcher who worked with Straus to develop the theory in 1980, later challenged the premise that smacking was on the continuum of violence. Gelles now maintains that there are two distinct components to child discipline, physical discipline and abusive violence, and that there is no link between the physical discipline of children and child homicide. Straus's theory (1980), on the other hand, maintains that even if smacking does not actually lead to child homicide, children who are smacked are socialised into the use of aggression as a normal way to respond to conflict. This concept is also supported in other disciplines. For example, in social learning theory, interpersonal aggression is identified as a learned behaviour through operant conditioning (Malley-Morrison & Hines, 2004).

Straus goes further and suggests that what many consider a light smack is still primordial violence embedded into the way a family relates, and is part of a larger context that includes attitudes and behaviours. For example, whether a smacking episode is once a week or several times a week, one parent may think about how hard a child should be smacked, whilst another might be concerned with how many smacks the child needs.

Just as there is little controversy about the connection between stress and the difficulty to parent well, there is also little controversy about the overlap between harsh disciplinary actions and physical abuse (Ateah & Durrant, 2005; Connolly, 2004c; Eron, 1997; Gershoff, 2002a; Gil, 1975, 1979; Knox, 2010; Roberts, 2000; Straus, 2000). Seminal research by David Gil in the 1970s included 13,000 incidents of child abuse reported through legal channels during 1967 and 1968 in the U.S.A. Of those 13,000 incidents, 63% of the abuse incidents were in response to specific misbehaviour of the child (Gil, 1971; 1975). Similarly, Kadushin and Martin (1981) found, in an in-depth study of 66 cases of physical abuse, two-thirds of the cases began in a disciplinary context. International studies support findings that suggest the majority of child physical abuse cases started as a disciplinary measure; for

example, Canada (Trocmé & Durrant, 2003), Finland (Santasalo & Santasalo, 1983) and Hong Kong (Samuda, 1988) to name a few.

The Parent-Child Conflict Tactics Scale is the most widely used instrument to measure child discipline (Saunders & Goddard, 2010). In this instrument, there are no questions about attitudes towards physical discipline; rather the focus is on the caregiver's response to positive (or non-violent) discipline, psychological aggression and physical punishment. No information is collected about the frequency with which physical discipline is administered. The report is based, like many other measures of child discipline, entirely on self-reports, which is one of the major criticisms for any studies on violence. This distinction is of particular relevance for all the research in the area of physical discipline. Much of the research on the physical discipline of children begins with the assumption that a smack is violent (Gershoff, 2002a) or that it is not (Baumrind et al., 2002; Fuller, 2009) (see Chapter 2). Such assumptions have significant implications on legislation and for any programmes of work that seek to shape developing adult human behaviours through the socialisation of children. While Larzelere (1996; 2005) excludes the harsher disciplinary measures in his reviews of the literature, Gershoff suggests (2002a, 2002b; 2007) that harsh disciplinary measures are normal, not exceptional, and thus need to be included.

There are a number of researchers who strongly oppose any inference that the Swedish ban on smacking has resulted in fewer child abuse deaths, and strongly disagree with the assumption that smacking is an act of violence. Well known and outspoken pro-smacking advocates, Larzelere (2000), Fuller (2009) and Beckett (2005), maintain that smacking is ultimately good for the child, the family and society, and does not lead to child abuse. Dr. Larzelere was invited to New Zealand by the lobby group Family First while the Crimes (Substituted section 59) Amendment Act 2007 was in Parliament. Larzelere (2000), still one of the most high profile proponents for smacking,¹⁶ strongly disagrees with Straus's claims that smacking children for disciplinary reasons is linked with violence or child homicide in any way, and maintains there is no solid research to support a total ban on smacking. Fuller (2009), another opponent of the theory, concurs, and argues that Straus's research in which he established the theory was flawed. Fuller maintains that the participants in Straus's research were not provided with an option for moderate punishment, and that there were only options for those who have experienced corporal punishment and those who have not. Fuller (2009) also discredits Straus's claims that children are taught aggression due to a light smack, and argues that parents generally either smack sensibly or cause harm, and that there is no group in-between. However, given Straus's assumption that smacking is on the continuum of violence, he would have seen no need to provide another option.

Another opponent to the continuum of violence theory in the United Kingdom, Beckett (2005), strongly rejects any suggestion that abuse and homicide have decreased in Sweden since its ban on smacking. Beckett refers to statistics, as mentioned in the introductory paragraph at the beginning of this chapter, as a "Swedish Myth". Beckett's arguments include: firstly, that there would be no impact on the incidence of child abuse related deaths if smacking were made illegal in the U.K.; secondly, that due to variations in definitions and coding, such as what is referred to as fatal child abuse, international comparisons are not easily attained; and thirdly, that it cannot be said that the ban was a turning point with respect to the child maltreatment deaths since the numbers were already down in Sweden before the corporal punishment ban. While Beckett's first argument is debatable and his

¹⁶ See Robert Larzelere, '*NZ's Anti-Smacking Law most Extreme in the World'*, accessed 11 December 2010 at <u>www.familyfirst.org.nz/index.cfm/Action Alert/Anti-smacking Bill.htm</u>.

second argument not contentious, it is his third argument that needs further consideration here.

Social changes of a broader but related nature were taking place in Sweden at the time of the legislation for the ban of smacking. The decline of the use of physical discipline coincided with an increased focus on the overall mental and physical health of children, and is reflected in the introduction of parental leave, sickness insurance, and well-developed childcare systems (Durrant, 1996). Partly due to several public cases of severe abuse (Roberts, 2000), attitudes in Swedish society began to slowly change towards the use of physical discipline, and towards children and their well-being, in general (Sverne, 1993).

The link between legal reform and attitudinal change was made clear with one particular child abuse incident in Sweden in the 1970s (Ateah, Durrant, & Mirwaldt, 2004). An incident where a father who had beaten his child and was subsequently acquitted by the court, created a public outcry which influenced a decision by the Minister of Justice to appoint a Commissioner for Children's Rights to review the Parents' Code and child abuse in general (Durrant, 1999). Since the guidelines for parents and legal authorities with regard to physical discipline in the Commissioner's report were still not clear, the Swedish government added a paragraph to the Parents' Code stating distinctly that physical discipline was not permitted. Twenty-eight of the 30 experts who reviewed the proposal, 98% of Parliament members, and all political parties supported the addition of the paragraph. On 1 July 1979, the proposal was put into force. The paragraph states:

Children are entitled to care, security and a good upbringing. Children are to be treated with respect for their person and individuality and may not be subjected to physical punishment or other injurious or humiliating treatment.

Noteworthy here is that the Parents' Code in Sweden carries no criminal penalties, rather it is intended to educate (Durrant, 1999). The unique Scandinavian model that prohibits corporal punishment through civil rather than criminal law removes the threat of penal law as no sanctions are incurred (Shmueli, 2008). There are other

countries such as Germany who followed the Scandinavian model, along with other adaptations, seeking to avoid the criminalization of parents through a focus on civil human rights. Most countries with a ban on the physical discipline of children are educational rather than criminal. Within the following two years, as the result of an awareness campaign illustrating the law change with an education campaign that included information on milk cartons, pamphlets, and media coverage nearly every adult Swede was informed of the change and that physical discipline of children was now forbidden. Additionally, children's rights are included in the Swedish school curriculum (Ziegert, 1983).

The continuum of violence theory and the changes in Sweden towards the physical discipline of children are important to keep in mind when discussing child abuse and homicides. New Zealand has a high child maltreatment mortality rate at the hands of parents and caregivers, with children less than 5 years of age numbering nearly two thirds (Doolan, 2004a), while in the U.S.A. it is just over half (Hodgkin & Newell, 2007). Of those, in New Zealand, child homicides are highest for children under aged 1 (Connolly, 2006; UNICEF, 2003). In nearly every country infants under the age of 1 have the highest homicide incidence (UNICEF, 2003).

International research shows that the highest rates of fatal child abuse are with children four years old and younger, with the most common cause of death being head injury, followed by abdominal injuries and intentional suffocation (Krug, Dahlberg, et al., 2002). Generally, statistics on homicide are regarded as offering the most valid and reliable data for international comparisons given they are more likely to be reported to police and have a death certificate filed. As a result, there are more cross-national studies that focus on homicide than on any other type of crime (Doolan, 2005). When the number of child homicides in New Zealand is presented in a format that enables comparison with other western countries data (such as age or whether a parent or step-parent is involved), child homicide in New Zealand is still high (Doolan, 2005; Segessenmann, 2002). New Zealand also has a lower level of deaths classified as "of undetermined intent" than some other countries (Doolan, 2004a), when there is insufficient evidence to determine how the child died.

Janson (2005), a paediatrician in Sweden for over 30 years, agrees that it is difficult to know for certain what the Swedish change in legislation meant for the decline of physical discipline and homicide. He also suggests that Swedish attitudes towards children and smacking changed significantly well before the actual legislation took effect in 1979. Attitudes towards smacking did not suddenly change when Sweden abolished all types of physical punishment of children, rather attitudinal and legislative changes spanned approximately 50 years (Durrant & Olsen, 1997). In 1928 physical punishment was banned from Swedish secondary schools. In 1957, the law that excused parents who gave their children minor injury – intended to allow children to receive the same degree of protection from assault that adults receive – was removed from the Penal Code, thus corporal punishment was no longer allowed in the home. The Parents' Code in Sweden, that stipulates the duties of the parents as custodians and considers what is best for the child, still allowed for mild forms of physical punishment until 1996 (Durrant, 1999).

As in many other countries, incidents of severe corporal punishment were common and quite high in Sweden at the beginning of the twentieth century. In the 1990s, approximately 36% of Swedish children had been smacked by their mothers by the age of 13, usually once or twice, while during the 1950s it was quite normal for nearly all children to be struck by the age of 4 (Sverne, 1993). It seems that the decline of physical discipline in Sweden has been a gradual process involving changes in attitude alongside changes in legislation.

The effectiveness of physical discipline as a disciplinary tool is still quite controversial and contentious in many parts of the world. There is little specific attention in the literature to physical discipline and links to negative outcomes as an adult later in life (Afifi et al., 2006), and the effects of physical discipline on children who experience a generally positive parenting style, with parents who demonstrate warmth in the relationship, has also not been examined thoroughly.

Effectiveness and Outcomes of Smacking

Scholarly findings on the use of physical discipline vary significantly, with quite different conclusions reached in the analysis of the literature. One body of literature

calls for a total ban on smacking while at the other end of the spectrum smacking is viewed as totally acceptable when employed "appropriately". An examination of the literature on the polar positions held on the smacking helps crystallize the issues. Debates can be encapsulated within the positions taken by two leading researchers in the field, Gershoff (1989, 2002a, 2002b, 2008; Gershoff & Bitensky, 2007; Gershoff, Miller, & Holden, 1999) and Larzelere (1996; 2000; 2005; Larzelere & Kuhn, 2005; Larzelere, Kuhn, & Johnson, 2004). The following section examines the literature on the effectiveness and outcomes of smacking primarily through a comparative discussion of Gershoff and Larzelere's work, and is of particular significance to the current study due to the issues that are debated.

Gershoff's (2002a) comprehensive review of the literature, that included over 88 studies and 36,000 adolescent and preadolescent children, clearly found physical discipline connected to physical abuse. Gershoff (2002a) found that physical discipline experienced as a child was found to be connected to an increase of aggression, anti-social behaviours in adults' offending (felonious) behaviours, (as children, then as adults), diminished quality of relationship with parents or caregivers, an increased risk of smacking one's own child or spouse, and decreased moral internalization, as discussed in the previous chapter. One case reviewed was undertaken by Beauchaine, Webster-Stratton and Reid (2006) and found that parents used more physical discipline with children perceived to have more behaviour problems. In this study five hundred families attended a parent-training programme that included the goal of reduction of physical discipline. There was a significant reduction in children's behaviour problems as parents' use of physical discipline decreased. Variables such as temperament, early behaviour problems, genetic risk, and family factors such as race and income were discussed in the literature review in a paper by Gershoff (2002a), with the only consistent positive effect for physical discipline found was that of immediate compliance.

Larzelere published three reviews of the literature on smacking. Methodological differences, incommensurate definitions, and differing conceptual frameworks, meant that in each case Larzelere reported on only a portion of the studies initially selected for the review. The first in 1996, included 35 of the 166 studies (Larzelere,

1996), the second in 2000 included 38 qualifying studies (Larzelere, 2000), and the most recent in 2005 with Kuhn (Larzelere & Kuhn, 2005) included 26 qualifying studies. All three reviews are consistent with a pro-smacking stance; thus, the ensuing discussion links the relevant issues rather than following the reviews in chronological order. Larzelere's (2000) findings conclude that mild or occasional smacking in itself is not harmful between ages two and preadolescence. Rather it is the context in which the disciplinary act occurs and variables such as the child's age, the overall parenting style, and the cultural meanings of smacking that are significant contributors to how smacking is experienced. Larzelere and Kuhn (2005) maintain that the use of physical punishment, also known as the conditional corporal punishment position (Benjet & Kazdin, 2003), only compare unfavourably when it is the main disciplinary method or is too severe. They advocate that smacking children, in the context of a loving family, where other disciplinary methods are also used, is not only acceptable but might be good for children.

Larzelere agrees with Baumrind's (1996) beliefs about the use of physical discipline stating that "a blanket injunction against disciplinary spanking by parents is not scientifically supportable" (1996, p. 828), and criticizes other reviews and studies. For example, Larzelere, Kuhn and Johnson (2004) maintain that many studies do not include research that makes a specific distinction between non abusive physical punishment, overly severe discipline, and any studies that included severe smacking. Their claim that other summaries of research on child discipline do not make that critical distinction in the definition, such as Gershoff's review of the literature, in particular, is flawed as a result. Another example of the criticism of research on the physical discipline of children includes the following comment from Baumrind, Larzelere and Cowan (2002) who state:

There is a sense in which participants in the current debate about the effects of corporal punishment are talking past each other. A second issue which has not been given the attention it deserves is the distinction between harsh and punitive but not legally designated abusive punishment and the more moderate application of normative spanking within the context of a generally supportive parent-child relationship. (pp. 580-581)

The distinction between physical discipline and abuse continues to be at the core of much of this debate. Some authors (Baumrind et al., 2002; Fuller, 2009; Larzelere, 2005) see the distinction so clearly that they suggest that parents who have a low tolerance for frustration or who are impulsive and/or immature, should not smack at all, lest they hit a child in response to their own frustration rather than to correct the child. Gershoff's perceived failure to not make a distinction between non-abusive and abusive physical punishment in her review led critics like Larzelere to claim her findings were flawed and not generalisable (Larzelere et al., 2004). Gershoff, however, maintains that the studies she included only reported the delivery of a smack (with an instrument or hand) on the targeted area of the child's buttocks or hands. Studies that reported behaviours such as punching, burning, or beating were explicitly excluded in her meta-analysis. Nonetheless, Larzelere insists that Gershoff's overly broad measure of physical punishment included studies of more abusive behaviours and that this biased her analysis.

Gershoff's findings have been further critiqued by Larzelere (2004) on several other aspects as well. These include the criticism that not all participants within the 88 studies were effectively screened and some of the included parents who used physical punishment may also have been abusive. Another criticism, also related to the inclusion criteria, is that the analysis included studies on parents who seek out social services. According to Larzelere, those who seek social services are most likely to have more behaviour problems than those who do not, thus, introducing another potential bias in Gershoff's research. Additional criticisms of Gershoff's analysis included issues of the context, for the smacking, and the relationship of the child with the parent (Holden, 2002). Gershoff countered this perceived deficit by directing readers to the introduction of her analysis, in which she states clearly and purposely that "Parental corporal punishment was associated with all child constructs, including higher levels of immediate compliance and aggression and lower levels of moral internalization and mental health" (Gershoff, 2002a, p. 539).

The effects and outcomes of smacking are contested in the literature. Regardless of all the findings both for and against the use of physical discipline in parenting there is no clear determination of the impact of the "smack". While some studies have

concluded that smacking is related to negative outcomes for a child, and continues to manifest negatively in a child's life into adulthood (Gershoff, 2002a), other studies have concluded that smacking has beneficial effects if the smack is light (Larzelere & Kuhn, 2005). Such a stalemate led Benjet and Kazdin (2003) to compare findings between Gershoff's and Larzelere's reviews and highlight distinguishing considerations. Despite inconsistencies and overlaps (Gershoff's review included 70 studies that Larzelere did not; Larzelere's included 20 studies that Gershoff did not). Benjet and Kazdin (2003) found that the reviews included 18 overlapping studies from which it was possible to extract three points of consensus. All of the studies were English language based and most conducted after 1950.

The first consensus point was that much of the research supports the notion that smacking is effective in stopping a child's misbehaviour. Children who are physically punished will certainly stop whatever behaviour seems to elicit such punishment (Graham, 1996), especially if they are afraid of being smacked again (Vittrup & Holden, 2010). Those who view immediate compliance as a sufficient measure of the effectiveness of physical discipline need look no further. In the context of this "effectiveness", however, there is also confirmation of the harmful effects of smacking that can include fear, resentment, a sense of powerlessness (Durrant, 2000) and possible future social and psychological problems (Straus, 2000).

The second point of agreement identified in Benjet and Kazdin's (Benjet & Kazdin, 2003) review is that the age the child is smacked makes a difference. For children old enough to reason, there is a great deal of research that supports disciplinary measures other than smacking (Anderson, Murray, & Brownlie, 2002). That smacking is more useful for children not old enough to reason is a point of great controversy in the literature.

The third agreement is that both Gershoff's (2002a) and Larzelere's (2000) reviews acknowledge that frequent and/or severe punishment signals a problem in family dynamics and has negative outcomes. Although Larzelere (2000) concludes that smacking, or indeed any disciplinary technique, is harmful if its frequency reaches

one to three times each week, Gershoff's (2002a) findings do not make any such specific claims. Gershoff's position is that smacking is much more than a disciplinary tool, and that the use of smacking, even seldom, indicates a worldview of conflict resolution premised on the acceptance of physical coercion. Gershoff's findings support Straus's continuum of violence theory that all smacking signifies a way of relating that is on this continuum. To eschew the smack is to adopt what Benjet and Kazdin (2003) call "the anticorporal punishment" or "violence begets violence" position.

The implications of the second and third points of agreement found in the multiple meta-reviews on smacking support that smacking is on the continuum of violence. Relevant to this discussion, and not yet extensively researched, is how children are experiencing and perceiving physical discipline and whether or not they experience a smack as violent. Dobbs and Duncan (2004) examined children's experiences of physical discipline in New Zealand based on a larger study conducted in England by Willow and Hyder (1998). The study involved children interviewed by a storybook character, an alien puppet creature called "Splodge", who was curious about life on earth. The children were asked to help Splodge understand many things about life on earth, especially smacking. Using child-friendly language, much insight into how children experience smacking was revealed.

Dobbs' findings concur with similar studies that invite children to define a smack. The children's definitions are markedly different from their parent's definitions of the same smacking incident (Cutting, 2001; Dobbs & Duncan, 2004; Willow & Hyder, 1998). For example, while parents distinguished between what they considered smacking and hitting, the children did not appear to hold such a clear distinction, and consistently agreed that smacking hurt, describing smacks as a "hard or very hard hit" (Willow & Hyder, 1998, p. 89). Contrasting views between children and adults includes more than the physical impact of the smack. While, as an adult, a parent may minimise the impact of their smacking, research indicates that for the adult, memories associated with smacking recall a perception of a changed relationship with a parent from a loving caregiver to someone who hurts them (Gershoff, 2002a). Other findings from the perception of the child include that they feel afraid, sad, and unloved after a smacking incident, their level of trust changes, and they view their parent differently (Carroll-Lind, 2006; Dobbs & Duncan, 2004; Osofsky, 1997).

It is critical to consider the impact of a smacking incident as the child experiences it (Carroll-Lind, 2006; Dobbs & Duncan, 2004; Osofsky, 1999; Willow & Hyder, 1998). The primary understanding that children gave for being smacked was because they hurt someone else, although some said they did not know why they were smacked. Such a response is significant insofar as the socialisation of children is concerned, and what they are being taught when receiving discipline (Dobbs, Smith, & Taylor, 2006). It could be argued that smacking a child because they hurt someone else is, in itself, a contradictory message. Only one child out of 10 spoke about trying to be good after a smack, although that same girl said she was smacked even when she was trying to be good (Dobbs & Duncan, 2004).

The impact of a smacking incident as it is experienced by the child is one area where new research is adding to the discussion, especially since children frequently perceives a smacking incident as traumatic (Perry, 2000). Consideration of how smacking may be experienced by a child, depending on the variables surrounding the incident, sheds a different light on the effects of such a disciplinary tool (Bitensky, 2006; Costello, Angold, March, & Fairbank, 1998; Miller, 2002).

There is a recent increase of studies on smacking and the effect it has on children. Janis Carroll-Lind (2006), another New Zealand researcher, published her PhD thesis on the impact of children's perceptions of violence. The psychological (emotional), behavioural, social, physical, cognitive or long term impacts that various types of violence – such as bullying, family, emotional, physical and sexual – have on children were examined. Carroll-Lind's (2006) thesis is premised upon a definition of violence that includes smacking, although she makes the point that physical discipline is one of the forms of violence that do not often become a criminal offence, and her findings and discussion included the effects of smacking on an intrapersonal, or ontogenic level. Examples of research indicating how children experience smacking will contribute to the further refining of definitions and conceptual frameworks of violence.

The Children's Commissioner in New Zealand commissioned four senior researchers to review the literature on physical discipline and many of their findings were similar to those of Gershoff, in that long-term effects are overwhelmingly consistent in producing negative outcomes for children (Smith et al., 2005). They confirmed that physical discipline does work sometimes with a short-term effect, yet some studies do not indicate any link between physical discipline and its effectiveness. Specifically they emphasised that with physical discipline, there is a high likelihood of escalation and a tendency to for it to get more severe with continued use. If there is immediate compliance that does not mean that the children will behave next time, and there are other effective parenting strategies that can be utilised instead of physical discipline (Smith et al., 2005).

Parenting Styles and Discipline

Parental styles, physical discipline, and subsequent outcomes are indelibly linked. Although there are various parenting styles identified, such as authoritative, authoritarian, and permissive (Baumrind 1966b), two parental styles that are most frequently referred to and that are particularly relevant to the current study are positive or punitive. Positive and punitive (also referred to as negative) childrearing practices are often reflected in how discipline is understood (Grogan-Kaylor & Otis, 2007). It is possible to have a crossover between parental styles, and some parents prefer positive parenting methods with punitive discipline such as smacking sometimes included (Holden, Miller, & Harris, 1999; Vranceanu, Hobfoll, & Johnson, 2007). How one understands the role of discipline and whether its primary purpose is for guidance or punishment helps distinguish positive and negative parenting.

It was only after over 30 years of research on the physical discipline of children that Straus (2008) decided to extend his research to a wider examination of discipline. Straus's first step, to develop a measure of discipline for research purposes, included the assumption that discipline would need to be clearly defined. Unexpectedly, Straus discovered that even comprehensive and authoritative works used the term discipline hundreds of times but never defined it (Bornstein, 2002; Fisher & Lerner, 2005).

Further research involved a content analysis of 10 child development textbooks published between 2000 and 2006 which revealed that only three of these textbooks defined discipline (Straus, 2008). The three definitions ranged from "anything parents do to bring up a well-behaved child, including providing love and support and exemplifying good behaviour" to "punishment, often smacking" (p. 207). As a result of the content analysis on the term discipline, Straus and his colleagues (1980) decided to add a qualifier and refer to the measure he developed for his research purposes, the Dimensions of Discipline Inventory measure, as *corrective discipline*. What may appear in the first instance as a digression into the vagueness of the term discipline is in fact a highly relevant concept with respect to parental styles. Further clarity about discipline and what a particular parental style reflects is needed.

A positive parental style involves teaching and guidance and a child is encouraged to behave appropriately and relate to the world around them in a positive way, by developing awareness of acceptable and unacceptable behaviours. Teaching and learning the consequences of actions is emphasised (Holden, 2002). According to Holden (2002), when children are taught about acceptable and unacceptable behaviours and consequences of their actions, discipline as instruction and guidance (as opposed to discipline as punishment) results. Positive discipline includes establishing age-appropriate, logical consequences and ensures the child understands why certain behaviours are unacceptable (Dreikurs, Cassel, & Ferguson, 2004). Time-out and the withdrawal of privileges are usually considered consequences rather than punitive, but as in all discipline, context must be considered (Gershoff, 2002b). Other positive disciplinary methods include distraction and redirection, and problem-solving (Bretherton, 1992). Constructive criticism also may be included here.

Punitive discipline is often reactive and usually focuses on compliance if the child wants to avoid punishment. Smacking, threats, or other consequences such as withdrawal of privileges with little explanation are included in the punitive childrearing practices (Gershoff, 2002a). When certain parental responses to a child's behaviour, such as withdrawal of privileges, may or may not be considered punitive leads to the emphasis on such matters as context, the age of the child and how much the child understands about why they are being related to in such a way. The use of physical punishment is only one amongst a range of disciplinary tools. The most frequent responses to the misbehaviour of children include reasoning (or verbal communication), and time-out (Stacks, Oshio, Gerard, & Roe, 2009). Additional research that evolved in the context of social change on the attitudes and beliefs towards smacking include common discipline practices such as distracting and monitoring (Socolar, Savage, & Evans, 2007), problem solving, self-reward, and the use of natural and logical consequences (Carey, 1994; Dinkmeyer & Dreikurs, 2000). Research indicates that punishment techniques are not very effective in eliminating behaviours. In fact, positive reinforcement procedures such as time-out, distraction and logical consequences achieve many desired goals, for example compliance when disobeying or fighting, for which smacking is also generally (Benjet & Kazdin, 2003) used.

Despite arguments in favour of smacking, the report by the New Zealand Office of the Children's Commissioner (Smith et al., 2005) concludes, after a thorough review of the research, that there are too many risks to validate the use of physical discipline as a disciplinary tool. They maintain that smacking should be avoided, particularly since there is no agreement whatsoever on understandings and definitions about what merits moderate and what merits severe physical discipline. Key suggestions from the report include the need for parents and professionals to become aware of recent research findings on family discipline, which may involve a change to their approach to family discipline to less punitive methods. Similar to the findings from the SKIP report (Woodley, Metzger, & Clements, 2009), emphasis on the importance of the relationship between children and their parent(s)/caregiver(s), and learning to behave within the context of social relationships has a critical effect on how an individual evolves (Smith et al., 2005).

A New Zealand campaign has introduced a less well known parental style referred to as conscious parenting. Conscious parenting encourages people to think about how they parent with a more mindful approach, and acknowledges that one's own experiences and history is often carried into parenting styles. Conscious parenting, rather than reactive parenting, is included in a programme in New Zealand as part of education for parents:

Conscious parenting means becoming deliberate and intentional about what we want for the children we care for. It's making choices about what we bring from our own families and what we choose to leave out. (Clements, 2005, p. 6)

The New Zealand campaign, known as Strategies with Kids – Information for Parents (SKIP), was launched by the Ministry of Social Development on 6 May 2004. SKIP is a community development approach that provides strategies for parents and caregivers of 0 to 5-year-olds and provides seminars, workshops and networks and offers free resources such as pamphlets with tips and messages to support positive parenting. The emphasis in SKIP is to provide practical parental skills to discipline children in non-physical ways, with a focus on what to do rather than what not to do. Based on research about good parenting practice (Smith et al., 2005; Stokes & Sheehan, 2005), SKIP focuses on the relationship of the parents with the belief that the way parents parent will have an impact on positive social change. The review of the effectiveness of SKIP held in 2009 found that there has been a shift in the understanding of parenting (Woodley et al., 2009) and concluded that: "Many of those working on SKIP-funded initiatives recognise that social change begins with the individual. When organisations reflect first on their own experience and behaviour they learn how to support others to do the same (p.14)."

Research indicates that New Zealand parents are more likely to use punitive parental styles such as shouting and smacking, although acceptance of the use of implements for punitive physical discipline has declined (Ritchie, 2002). A Families Commission survey held in New Zealand in 2007 found that of the 100 families with children under the age of 5, although 41% of parents and caregivers had smacked their children only nine percent thought it was effective (Lawrence & Smith, 2009).

Context

The family context and how and what other disciplinary techniques are used, influences how physical discipline is experienced by the child (Baumrind, 1997; Benjet & Kazdin, 2003). It is generally agreed that the link between child outcome and physical discipline is significantly affected by parental warmth (Deater-Deckard et al., 2006; Gershoff, 2002a; Hazel et al., 2003; McLoyd & Smith, 2002) and might possibly be the one of the most important variables (Hazel et al., 2003).

Whether the parenting style is positive or punitive, it is consistent in the literature that one of the most significant variables for the effectiveness and outcomes of smacking is the context in which the discipline occurs (Baumrind, 1996; Creighton & Russell, 1995; Deater-Deckard & Dodge, 1997; Ellison, 2009; Hecht & Hansen, 2001; Stacks et al., 2009). Variables such as where the child is smacked, how long or how hard, and if the child understood what the smack was for, are critical in terms of the effect it has on the child (Ritchie, 2002). Gershoff's (2002a) extensive review of the literature on smacking found that the emphasis on the relationship between the child and the adult and what is being taught by any disciplinary action is critical, and affects the socialization of children. Osofsky (1976, 1999, 2003) concurs, and maintains that the impact of a child's exposure to family, community and media violence has a profound effect on a child's sense of safety, and how they internalize the world during their early development. Osofsky builds on the work of Erik Erikson's seminal work on child development, Childhood and Society (Erikson, 1963), in which the development of trust is the initial step in forming healthy relationships, with emphasis on the early development of trust. Variables and context also seem to be particularly relevant to outcomes.

Those on all sides of the smacking argument readily agree in two significant areas. Firstly, that the context, as well as the child's understanding of the parent's message, may affect whether the outcome is positive or negative (Baumrind, 1996; Deater-Deckard & Dodge, 1997). Secondly, and inter-related, the consideration of cultural differences is particularly critical (Whiting & Whiting, 1974). Context includes such variables as the child's age (Lawrence & Smith, 2009), education of the parents or caregivers (Anderson et al., 2002), the emotional state of the parents (Whipple & Richey, 1997), religion, ethnicity, frequency of smacking (Stacks et al., 2009), parental styles, and other disciplinary measures previously tried (Gershoff, 2008). The outcomes of smacking are affected by many variables such as the situation that led to the smacking, the relationships (for example, step-parents or foster parents) of those involved, circumstances, and what else is going on in the family.

The age of the child is one of the factors that may affect the outcomes of smacking. Recent studies conclude that parents use more physical discipline when children are $1\frac{1}{2}$ to 3 years old than at any other age (Donnelly & Straus, 2005; Socolar et al., 2007; Vittrup, Holden, & Buck, 2006). This concurs with the 1980 peak age for smacking which was found by Straus and his team to be 36 months old (Straus et al., 1980). However, as a disciplinary tool, evidence suggests that smacking is frequently used on children too young to possibly understand the lesson (Willow & Hyder, 1998), with much of the physical discipline happening when parents interpret normal, age-appropriate behaviour as intentional disobedience or misbehaviour (Cavanagh, Dobash, & Dobash, 2007; Hecht & Hansen, 2001; Lau et al., 2005; Wiehe, 1990). Parallel to the variable of age for physical discipline, contributing factors identified in the literature as perceived to contribute to child abuse are often in response to such behaviours as toileting or crying (Kempe et al., 1962; Lansdown, 2000; Somander & Rammer, 1991). Whether a child's behaviour is viewed as disobedience or as normal developmental behaviour is likely to effect the disciplinary measures for a child, and in fact, whether a child is smacked (Jackson & Dickinson, 2009).

Knowing what is age-appropriate behaviour and how to teach children is linked with parent education, and evidence suggests that parent education and support significantly reduces the use of corporal punishment (Knox, 2010). The influence of education of the parents on parental interpretations of a child's perceived misbehaviour (Jackson, Henriksen, & Foshee, 1998) is indicated in the 1993 Office of the Commissioner for Children report, *Physical Punishment in the Home in New* *Zealand*, which found that parents with higher education were less likely to endorse physical discipline (Anderson et al., 2002). Conflicting debate on the differences between education levels and the impact that has on the use of physical discipline are ongoing. According to the *World Report on Violence*, those with higher education are also significantly less likely to be involved with a child homicide, while those with depression and multiple stressors are two to three times more likely (Krug, Dahlberg, et al., 2002).

Older children are more likely to experience negative effects such as aggression and antisocial behaviours if they are smacked (Gershoff, 2002a; Larzelere, 2000). Gershoff (2002a) found that aggression and antisocial behaviours increased with age, specifically with children aged 10 - 12, and gave indications of how smacking might affect a child's relationship with the parent/caregiver. Also, there is evidence that mothers 25 and younger are more likely to smack their children (Huang & Lee, 2008).

However, there are differing opinions, with further research needed to examine the effectiveness and outcomes of smacking children of specific ages. Larzelere (2004) maintains that a "two-swat" smack is more effective than other common disciplinary measures for children between the ages of 2 and 6 (under certain conditions) and that other disciplinary measures such as time-out are actually more effective when backed up with a smack. Larzelere and Kuhn (2004), strong proponents for smacking, stress physical discipline should never be used on infants 12 months or younger and rarely, if at all, before 18 months old or after puberty. For prosmackers, it is generally agreed that the use of smacking needs to decline as children grow older (Frick, Storkebaum, & Fegg, 2000; Wauchope & Straus, 1990), but if it is used on older children it tends to be more severe (Nobes & Smith, 2002).

A Ministry of Justice nationwide survey of 1,000 adults in New Zealand on public attitudes towards physical punishment reported that smacking with an open hand was acceptable to 80% of the participants, smacking with a wooden spoon acceptable to 15%, while only 0.4% thought hitting with a piece of wood was acceptable (Carswell, 2001). Hitting children with objects in the head and neck area definitely

received a negative response from the respondents. The survey questions included three categories of physical discipline, the physical severity of punishment, type of punishment, and the physical punishment of children of different age groups. Overall 23% thought it was acceptable to physically discipline children under 2 years old, 62% thought it was acceptable to physically discipline children 2 to 5 years-old, 72% thought it was acceptable to physically discipline children 6 to 10 years old, 43% thought it was acceptable to physically discipline children 11 to 14 years old, and 16% thought it was acceptable to physically discipline children 15 to 17 years old (Carswell, 2001). The survey included a minimum of 100 Māori and 100 Pacific respondents and suggested that Māori or Pacific peoples viewed it less acceptable to use physical discipline than the New Zealand European/Other ethnic groups. No differences in attitudes for the various socioeconomic statuses were indicated, and men and women had similar responses for questions on type and severity of punishment. More specifically for the present study, is that the majority of people agreed that it is only a smack that leaves no mark that is acceptable, and that the physical punishment of very young and older children is unacceptable.

There are two well-known longitudinal studies in New Zealand that include exploration of the physical discipline of children. The Dunedin Multidisciplinary Health and Development Study (DMHDS) includes the health, development and behaviour of 1037 young New Zealanders. The first report to ever ask the participants about physical punishment is published in the New Zealand Medical Journal, On the receiving end: Young adults describe their parent's use of physical punishment and other disciplinary measures during childhood (Millichamp, Martin, & Langley, 2006). Of 962 26 year old adults interviewed, 80% reported that they received physical discipline at some point during childhood, with 55% of those reporting a light smack. There were four times as many reports for physical discipline, both with smacking and being hit with an object, for those in the primary years. Light smacking was found to be more likely by mothers, with physical discipline ceasing for most at ages 10 and 12 years respectively. However, 40% of those who received physical discipline were still being hit between 13 and 18 years of age, even if on occasion. Of particular interest, the findings indicate that there seemed to be no connection between the perceived seriousness of what the child did

and the harshness of the punishment, which has implications for the use of physical discipline as a disciplinary tool.

The second longitudinal study in New Zealand on 1025 children looked at the predictors of physical discipline. Eighteen year olds were asked various questions such as their age when they had been physically disciplined, the context, and specific descriptions of the nature of the discipline. The mothers of those 1025 children had an interview at the time of their birth, and were also asked questions about their own childhood history and maternal adjustment. Findings suggest that women growing up in a dysfunctional family environment that included parental violence, or who experienced relationship difficulties with their own mother, reported higher levels of adult maternal depression and were associated with an elevated risk of harsher punishment with their own children (Woodward & Fergusson, 2002). Contextual factors such as low-socioeconomic status, young maternal age, and single parenting also are linked to higher risk for harsher parental discipline (Johnson & Ferraro, 2000).

A UNICEF (2011) report on the physical discipline of children from 33 developing countries based on 2500 children's responses maintains that for most countries, the prevalence of violent discipline is highest amongst children aged 5 to 9 years old. To add yet another variable, this same UNICEF report found that those children who were smacked more than twice a month as 3 year olds were much more likely to become aggressive 5 year olds (Saunders & Goddard, 2010). Research indicates that rates of child abuse are highest for children younger than 5 years old (Knox, 2010), with indications from other studies that child abuse is rarely seen above the age of 3 (Kempe et al., 1962; Lansdown, 2000).

Another contextual influence is religion. According to Ellison (2009), debates over smacking as a way to discipline frequently reflect deeply embedded cultural values and religious beliefs. Religious beliefs are often the most challenging to understand with respect to the use of physical discipline. Research indicates religious practices and spiritual attitudes do not contribute to a reduction in aggression and other destructive behaviours (Leach, Berman, & Eubanks, 2008). A good example that

clearly reflects the link between beliefs and behaviours is the conservative Protestant beliefs and culture. When comparing individuals who were members of denominations classified as biblical literalists (Pentecostal, Church of God, Baptist) to nonliteralists (Roman Catholic, Episcopal, Presbyterian and Methodist), Wiehe (1990) found that literalists were significantly more likely to believe in the use of corporal punishment than non-literalists.

Such research parallels with the New Zealand experience of the role of religion with the smacking legislation. Key religious leaders were often outspoken against the repeal of section 59 and were strong advocates for the rights of parents to use physical discipline. Conservative Protestants were frequently the most vocal in wanting to uphold their religious position alongside the right to smack. In protest marches, their children could be seen carrying placards that said "A Smack is a Way to Keep Trouble at Bay", "Let Parents be Parents", "Discipline him with the Rod and save his soul from death", and "Stop Home Invasion" ("The Section 59 March," 2007). Conservative Protestant belief systems involve concepts such as if you do something wrong, you will be punished for it (Ellison, Musick, & Holden, 1999; Gershoff et al., 1999; Hempel & Bartkowski, 2008).¹⁷ There are many Christians who consider that a critical part of good parenting includes smacking or physical discipline, and believe that it is the responsibility of parents to socialise their children to submit to God and thus lead them to salvation by demonstrating both judgment and mercy (Dobson, 1992; LaHaye, 1977). Such a belief system reflects an authoritarian or punitive parental style and such parents tend to smack often when children are very young then smack less often as children grow older (Baumrind, 1966b). In authoritarian terminology, they have "laid a firm foundation" and have less cause to smack as their children grow older (Fuller, 2009). The outcome sought

¹⁷ High use of physical discipline in the southern part of the U.S.A. is associated with conservative religion for many of the same reasons. See *Religion and Child Development: Evidence from the Early Childhood Longitudinal Study* (Bartkowski, Xu, & Levin, 2008).

by conservative Protestants is children's obedience, and physical discipline is seen as an effective parenting tool for this significant goal. The wilful disobedience of a child justifies a strong and swift parental response, with issues of authority and respect at stake. In a situation where a child openly defies a parent, the authoritarian view is that physical discipline is particularly suitable.

An example of a current influential evangelical leader in America who has a strong influence on parenting styles, particularly with conservative Christian families, is Dr. James Dobson. Dobson, the author of numerous books and articles, advocates the punitive parenting style of discipline and advocates the smacking of children as early as 15 to18 months to 8 years old. An example of one of Dobson's (1992) suggestions is that:

It is not necessary to beat the child into submission; a little bit of pain goes a long way for a young child. However, the spanking should be sufficient magnitude to cause the child to cry genuinely. (p.7)

Another recommendation from Dobson on how to deal with crying states:

Real crying usually lasts two minutes or less but may continue for five. After that point, the child is merely complaining, and the change can be recognized in the tone and intensity of his [sic] voice. I would require him [sic] to stop the protest crying, usually by offering him [sic] a little more of whatever caused the original tears. (Dobson, 1992, p. 13)

The powerful influence of such religious leaders as Dobson not only promotes controversial physical discipline practices, but also highlights the challenges that can erupt when actual legislation dictates child rearing practice. There are always going to be factions that simply do not agree.

Summary

The study of physical discipline is an especially complex field of study (Collins, Maccoby, Steinberg, & Hetherington, 2000), and there appears to be an impasse on the question of potential harm or possible usefulness of smacking as a disciplinary tool. The literature surrounding the use of physical punishment for disciplinary reasons is complex with multiple variables, contextual differences, and the

appropriateness of physical discipline remains contested in the literature. It is important to note that much of the literature on the physical discipline of children focuses on child abuse, or makes no distinction and includes any light smack with abuse. Although it is acknowledged that Sweden has fewer child homicides than most other countries (UNICEF, 2003), the possible link between child homicide and physical discipline is not agreed. In addition, contradictions and sometimes opposing findings in the meta-analyses by Gershoff (2002a) and Larzelere (1996; 2000) highlight broader issues surrounding the debates about the use of physical discipline. There is still great controversy over whether physical discipline, however light, is violent or on a continuum of violence.

There are prevailing beliefs that smacking is a natural form of discipline, is mostly used as a last resort to teach a necessary lesson, and cannot be compared with abuse (Lansdown, 2000). Yet, international human rights legislation has mandated that smacking has the same potentially destructive impact as abuse (Bitensky, 2006), and is, in fact, on the continuum of violence. The extensive data on child abuse and physical discipline provides very little commentary on parent's attitudes and beliefs towards a light smack. The inclusion or exclusion, and the lack of clarity and consistency in the research on this disciplinary method, affects how or if a smack is deemed violent, and the implications of those attitudes and beliefs. To date, the majority of research on physical discipline focuses on effectiveness and outcomes, and it is here that the nuances for the interpretation of definitions become particularly salient and the need for further research clear. Deeply embedded cultural attitudes, religious beliefs, and social norms reflect the use and understandings of definitions, terms, legislation, and more specifically, social behaviours.

Socialisation and context are critical to the debates about the use of physical discipline, perhaps best illuminated by Bierstedt's (1970) distinction "what is culture transmission from the point of view of the society as a whole is socialisation from the point of view of the individual" (p. 328). Socialisation research has focused on how children internalize family attitudes, behaviours, and parent's disciplinary practices and society at large (Gelles & Straus, 1988; Zigler & Hall, 1989), and the

view that a child's learned response is brought into adulthood is well established. Often a parent is simply passing on what has been learned from his or her own parents. The link between partner abuse and child abuse (Appel & Holden, 1998; Fanslow, 2002) is also already established in the literature. How an individual parents a child, along with various other social and cultural influences, affects a child's well-being. There is evidence that warm, sensitive and stimulating parenting positively affects a child's well-being (Bowlby, 1982; Deater-Deckard et al., 2006; Osofsky, 1999; Stacks et al., 2009).

Concerns about the goal of discipline, what parents achieve by smacking (Hazel et al., 2003), and to what extent smacking shapes us individually and socially are debated in the literature. Much of the controversy over the use of physical punishment as a way to discipline children begins with discussions about socialisation and diversity. Socialisation and culture have a substantial effect on what is deemed as acceptable behaviours,¹⁸ and there is acknowledgement that how physical discipline is understood is also related to the context in which it is applied.

Major gaps in the literature include assumptions about whether or not smacking is violent or on a continuum of violence and links between the intrapersonal and interpersonal relations. Given the complexities of family violence, and that one of the goals of the Taskforce in New Zealand is to address the attitudes, behaviours, and tolerance of violence in families and society, the field work in the present study aims to contribute further insight with the examination of the social perspectives held by a cohort of mothers in New Zealand.

¹⁸ This applies not only in the realm of child discipline. For example, Kamikaze pilots were socialised to be willing to die for Japan and the emperor, and the link between the self and the country were connected. See *Being Human: Relationships and you: A Social Psychological Analysis* (Larsen, Ommundsen, & van der Veer, 2008).

The growing human rights movement deems a light smack as part of the definition of violence, and as a result, how a light smack is viewed is critical to not only the UNICEF report cards, but for the relationships within New Zealand families. If New Zealand's parental disciplinary practices reflect a punitive society, then the socialisation of children needs further examination if there is to be progress in the area of child abuse and family violence.

The first five chapters have provided a necessary foundation to pursue the field research for the present study. The next step is to identify the social perspectives held by New Zealand mothers towards physical punishment and what can be inferred from the exposition of those viewpoints. Definitions of violence, family violence, child abuse, physical punishment and discipline have been identified, and interpretations of those definitions with respect to socialisation and culture have been examined. The impact of the changes for Article 19 of the United Nations Convention of the Rights of the Child and the evolving Human Rights movement on national legislation for physical discipline has been considered. Theoretical frameworks that link the individual with interpretational and social violence have been identified, and models that link the individual to the wider environment provide conceptual frameworks to link the disciplinary style of a parent, relations, and outcomes of smacking. The following chapter outlines the methodologies employed in the field work.

CHAPTER 6 - RESEARCH METHODOLOGY

As for the anti-smacking bill...it wasn't technically a conscious [sic] vote, but it had all the hallmarks of a conscience vote because it was one of those issues that went deep down into your belief system. (Katherine Rich, Listener, July 2007, p. 27)

We lack a suitable theoretical framework to provide the insights into individual conflicts and links with aggression to further understand the roots of violence. (Davies, 2004, p. 19)

Q-methodology...is most often deployed in order to explore (and to make sense of) highly complex and socially contested concepts and subject matters from the point of view of the group of participants involved. (Watts & Stenner, 2005, p. 70)

Introduction

There are various methods available and appropriate to study social issues. Given that the present study is on the social issue of the physical discipline of children – which is often linked with child abuse – it is relevant to emphasise that most research on violence consists primarily of qualitative studies with interviews or quantitative studies with questionnaires or surveys (Waltz, Strickland, & Lenz, 2005). It is the intention of the present study to contribute to the discussions and further understand the debates that surround the complex issues on the physical discipline of children through fieldwork informed by the use of Q methodology.

The aims of this exploratory study are to: examine the definitional issues relevant to this thesis, explore and outline evidence from a wide range of literature that contextualise the issue of physical discipline in and through the legislative debates surrounding the Crimes (Substituted section 59) Amendment Act 2007 in New Zealand, outline conceptual frameworks through which issues of child socialisation and discipline are commonly explained in order to frame the previous legislative discussion from a different perspective, and examine the issue of physical discipline and its potential impact on children and their socialisation. The abductive nature of this research meant that there was recursive movement between the empirical research and the bodies of literature that surround the research question. For the purposes of presentation, the literature reviews are introduced at the outset whereas they were undertaken before, after and during the empirical Q work. The summation of insights from the literature reviews, however, set the scene for the final aim, to identify the social perspectives on the issue of child discipline held by a cohort of mothers in New Zealand. They provide context for further understanding the

137

identified social perspectives on the issue of child discipline held by a cohort of mothers in New Zealand, through the social perspectives that emerged.

Q methodology is particularly well-suited to the research aims as it provides for a systematic study of viewpoints, or subjectivity. This chapter includes a brief overview of Q methodology with discussions on subjectivity and abductive logic, the Q-set design that includes the development of the concourse from a series of focus groups, the identification and administering of the Q-sort, factor analysis, and finally ethical considerations, participants and limitations.

Q Methodology Overview

Q methodology was developed by William Stephenson in the 1930s at the University of Oxford as he sought to further understand and study subjectivity. With PhDs in physics and psychology, Stephenson was in the unique position, given his expertise with analysis as well as psychology, to develop an exploratory statistical process (Watts & Stenner, 2012) to find patterns in responses from individuals as a way to gain access to subjective viewpoints (Webler, Danielson, & Tuler, 2009). Stephenson was an assistant to two well-known British psychologists of that time, Charles Spearman and Cyril Burt, and his work further adapted Spearman's statistical methods of factor analysis (Watts & Stenner, 2012) which developed into Q methodology to provide an objective and systematic approach for the study of subjectivity (Barry & Proops, 1999; Brown, 1986; Watts & Stenner, 2005).

The growth in the use of Q methodology over the last 20 years can be attributed to a number of influences. Firstly, combined qualitative and quantitative research methods are now more readily accepted in academia (see, for example, Tashakkori and Teddlie (2008)). In many respects, Q methodology combines the strengths of both traditions (Dennis & Goldberg, 1996) and provides a bridge between the two (Brown, 1980; Sell & Brown, 1984). Secondly, the increase in the use of qualitative methods in social sciences – and this method has a particularly strong qualitative slant (Brown, 1986) – has led to a much-needed deeper understanding of social issues. Thirdly, and perhaps significantly, rapidly changing technological advances and software packages that work with data analysis make what was once a process

based on specific and laborious calculations that only a very few could manage now an accessible and recognised research method (Watts & Stenner, 2005).

Subjectivity

The approach provided by Q methodology identifies individual perspectives, also known as subjectivity (Brown, 1980, 1993, 1996; Cross, 2005; ten Klooster, Visser, & de Jong, 2008), or a person's point of view at a particular point in time (Watts & Stenner, 2012). Individual subjectivity is constructed through discourses (MacNaughton, 1998; Watts & Stenner, 2012), and the understandings and experiences of participants are given shape through their own coherent form of everyday language and assumptions. According to Hutchinson (2012), "The methodology depends on the communicability of individual points of view and on the premise that the points of view are advanced from a position of self-reference" (p.19).

Since the 1980s a student of Stephenson's, Professor Steven Brown, has written extensively about Q methodology and greatly contributed to increased knowledge about Q as a sound methodology. According to Brown (1980):

Fundamentally, a person's subjectivity is merely his [sic] own point of view. It is neither a trait nor a variable, nor is it fruitful to regard it as a tributary emanating from some subterranean stream of consciousness. It is pure behaviour of the type we encounter during the normal course of the day. (p. 46)

Through the methods employed in Q methodology, the participants' subjective (or first person) viewpoints which contribute to the socially shared body of viewpoints towards the issue under study, are revealed (van Exel & de Graaf, 2005). Jeffares (2014) suggests: "Q helps reveal the topology of shared viewpoints – their character, distinctiveness, and interrelations" (p. 48). In line with understandings available at the time Stephenson was grappling with ideas of subjectivity. He saw the possibility for measuring subjectivity because it is an *operant* behaviour. That is "[in] coining the phrase 'operant subjectivity', Stephenson was trying to highlight that people's viewpoints are best understood, not as mental properties or entities, but as empirically observable, meaningful and relational behaviour" (Watts & Stenner, 2012, p. 41). Stephenson's emphasis on operant subjectivity distinguishes

subjectivity from consciousness or the mind; rather, it is an embodied behaviour that is best understood with reference to an impact on others and/or the immediate environment (Watts & Stenner, 2012). Or as Watts (2011) puts it even more bluntly:

A viewpoint does not exist within a person, but only in their current outlook or positioning relative to some aspect of their immediate environment (a circumstance perhaps, an event, or some other object of enquiry). A viewpoint exists and takes a defined form only in the moment of relationship between a subject and its object, between knower and known, observer and observed. (p. 40)

Given that Q methodology is an approach that leads to emerging perspectives through people's subjectivity, abductive reasoning has a role (Brown, 1980).

Abductive Logic

Understanding abductive logic is critical to make sense of the arguments made in the current exploratory thesis. Deductive and inductive practices of logic, which assume questions are knowable in the first place, are well known. Less familiar is the logic of abduction. Seemingly quite similar in the first instance, inductive and abductive studies differ in that inductive logic draws a general description of the research question from a sample to the whole, while abductive logic draws inference from a whole body of data toward an explanation. Abduction is exploratory. As Watts and Stenner (2012) suggest, determining viewpoints from the exploratory process of Q methodology with abductive logic allows for findings that do not invite a priori assumptions. It is important that the researcher does not have any a priori assumptions so that it is possible for new findings to emerge that may not have been previously identified (Brown, 1980). Abduction attempts to "explain why the observed phenomenon is manifesting itself in this particular way and not in others" (Watts & Stenner, 2012, p. 39). Given the complexity of the issues that surround the physical discipline of children, abductive logic is a useful approach. Similar to grounded theory, the logic of abduction through Q methodology provides a more systemic process that may or may not influence the way that data is interpreted with the information focused in a way that provides a hypothesis for the best explanation of an issue (Hutchinson, 2012).

In contrast with multi-method approaches which rely on triangulation for validity (Cohen, Manion, & Morrison, 2007), Q studies employ a sequential procedure in which each step informs the subsequent step (Greene, Caracelli, & Graham, 1989). The next section introduces how a Q study is developed.

Q-Set Design

Although there are other research methods that can identify social perspectives as well as various computer programmes that may be used to analyse the data from the Q-score sheets, the aim of the fieldwork was to examine the attitudes of a cohort of mothers in New Zealand on the physical discipline of children, in the hope that new knowledge might emerge from the social perspectives, which is what Q analysis does particularly well.

Understanding the development of a Q study begins with understanding the terminology, and there is specific terminology associated with Q. The unusual name of *Q* methodology itself was established to emphasise the difference of the method from the traditional "R" quantitative analysis method techniques (Webler et al., 2009). The main difference is that the Q approach looks for patterns that lead to social perspectives whereas the R approach looks for responses from each individual. Statements that represent the conversation of everyday life around a topic, usually known as discourses, are known collectively in Q methodology as a *concourse* (Brown, 1980), a universe of viewpoints, or a population or trait universe. The statements chosen to represent the discourses of the group, which should represent the widest range of existing opinions on the topic as possible, is known as the Q(item) set (van Exel & de Graaf, 2005; Watts & Stenner, 2012), also referred to as a *Q-sample* or *Q-deck*. Participants who sort the statements are known as the *P-set* (van Exel & de Graaf, 2005) or *Q participants* (Barclay & Weaver, 1962). Further understandings of the terms associated with Q methodology will be elaborated on in the following section that discusses the Q-set design.

Q methodology involves a technique that rank orders statements into a scale that can be factor analysed to identify common patterns, which are then interpreted in ways that describe and explain the participants' points of view (Brown, 1996). Every Q study follows the same basic progression, which begins with a clear research questions that fits with Q methodology, and the development of the concourse, which is the collection of statements that reflect the discourses that exist on a specific research question for a specific study (van Exel & de Graaf, 2005). Given that the main aim of the Q-sort is about defining the concourse, the development of the concourse is a critical stage of the process (Watts & Stenner, 2012).

Development of the concourse.

All Q studies develop a concourse through which a Q-set is sorted by participants, and the data is analysed (Webler et al., 2009). Watts and Stenner (2012) state that a concourse is the overall collection of statements that best represent the various positions on the research topic, and it is from the concourse that the Q-set is identified. Stephenson (1968) maintains that a concourse exists for "every concept, every declarative statement, every wish, [and] every object in nature, when viewed subjectively" (p. 44) and that such statements are common knowledge (1982). It is also known that a concourse may only be developed in response to a specific research question for a particular study and so are generated within a particular context (Watts & Stenner, 2012).

One way to better understand Q analysis is to consider it under the wider scope of a discourse analysis technique (Webler et al., 2009). Rather than aiming to identify individual discursive positions, however, Q seeks to identify the cluster of subjective views that can be drawn out in relation to the question under consideration. The distinction of a concourse is that, rather than present the discourses in narrative paragraph form, the relevant ideas encapsulated in the discourses are presented in succinct, stand-alone statements. The concourse represented for the Q participants encompasses the discourses, or conversation, of everyday life around the topic (Brown, 1980). The levels of discourses on a topic are not always sophisticated (Davies, 2004), and the concourse may reflect that. However, when the concourse represents the widest range of different positions on a subject, the quality of the research is improved (Brown, 1980). There are various ways to identify the statements for a topic of interest. Statements may come from various sources such as interviews, focus groups, blogs, personal opinions, media, photos, or other sources of text or visual data. A well-structured Q study must ensure that every effort is

made for the widest range of existing positions on the issue is broadly represented (Brown, 1980; van Exel & de Graaf, 2005; Watts & Stenner, 2012).

Q methodology assumes that there are a limited number of viewpoints on a particular issue (Barry & Proops, 1999; Brown, 1996; Waltz et al., 2005) which is referred to as *finite diversity* (Cross, 2005). The revealing of a cluster of viewpoints is influenced by the efficacy of factor analysis (Watts & Stenner, 2012). This finite diversity may be recognised by the consistent repetition of similar statements in the concourse (Peace, Wolf, Crack, Hutchinson, & Roorda, 2004).

In summary, the statements for the concourse are prepared by the researcher and are drawn from various sources. The aim is to develop a summary of the wide range of discourse about the topic, so that the Q-set can broadly represent the issue. This collection of statements represents the concourse on the research question. Once the statements are collected, they must be narrowed down to a manageable number.

Development of the concourse for the present study.

The concourse was defined primarily through the statements gathered during a series of focus groups that were run prior to the Q-set being developed. This was a deliberate strategy to draw on the discourse used by the focus group participants to generate the statements. In the next section, a discussion of the focus groups and how they were organised precedes the more detailed description of Q-sets and how they were generated for this study.

Focus groups.

Focus groups were chosen for the present study as the initial step to generate as broad and comprehensive a picture of possible attitudes and beliefs underlying the contested positions around child smacking in New Zealand around the time of the Crimes Amendment Act 2007. A pervasive discourse on child smacking was prevalent at that time and media publicity surrounding the debates was heightened.

Printed notices requesting focus group participants were posted in community newspapers, and newsletters in schools and kindergartens in Wellington, the Kapiti Coast, and Levin. Focus groups were approximately of one and a half to two hours' duration, with participants invited to one session only. Information sheets and consent forms were distributed before each focus group and participants were encouraged to contact the researcher should there be any questions or concerns. All participants who volunteered for the study were promptly responded to by the researcher by phone or email.

Each focus group followed a very similar format. The participants were encouraged to introduce themselves with their name and something about themselves so that the group might be more at ease (see Appendix H for details of the focus group process). To help create an informal atmosphere, all of the focus groups began with light refreshments. An initial pilot focus group was held in Raumati South (the Kapiti Coast) with a mothers' group who had their young children present. This provided a valuable opportunity to refine aspects of the process related to the management of young children (very interested in the flip chart paper and colour markers), and the effort to maintain an informal yet focused opportunity for discussion amongst participants. The pilot focus group also provided useful feedback about how to describe the intentions of the study.

The subsequent focus groups were held in Paraparaumu, Levin and Palmerston North. Three were held during the day, and, in response to the interest in Palmerston North, an evening group was held so mothers who found it more convenient to attend in the evening could participate in the study. Children attended each focus group, and the toys provided through the Plunket Rooms, along with tea and snacks provided by the researcher, created an informal and relaxed atmosphere for the discussions. The number of participants for each group ranged from five to nine.

At each of the focus groups, participants were invited to brainstorm attitudes and beliefs underlying the debate on the Crimes (Substituted section 59) Amendment Act 2007 with respect to the physical discipline of children. The participants were invited to consider not only their own but any possible attitude or belief that might be held by any other mother in New Zealand. Brainstorming in such a way also eased self-consciousness from the participants because any statement made need not be their own. Each focus group compiled as many various attitude and belief statements as possible and these were collated on flip chart paper. The focus groups continued until it seemed that saturation had been reached and no new ideas or statements were being generated. Two of the focus groups had more participants so these were subdivided into groups of four to five. The other two groups each worked as one. By the end of the fourth focus group it was evident that no new statements were forthcoming. Just over 230 statements were initially collected and this final

concourse of statements, along with four added by the researcher (explained later in

this chapter), was then systematically sampled to achieve a final Q-set of 44.

Identification of the Q-sets.

Having gathered statements, the next step is to achieve a smaller representative set of statements to have a manageable number that best represents the widest range of various opinions on the question of what underlies the issue. The researcher uses judgement and may also use a sampling strategy such as a criterial matrix (or what Fischer called a "balanced block design" (Brown, 1980)) to achieve the sample. Similar statements are grouped together, repetitive statements are removed, and a balance is sought between the viewpoint possibilities. Every attempt is made to ensure the statements are clear, unambiguous and contain only a single thought (Watts & Stenner, 2012). This process is repeated until there is a manageable number of groups of similar statements while maintaining the representative integrity of the sample (McKeown & Thomas, 1988). This approach is an effective way to "minimise the constraining effects of the design and tends to produce a sample of stimuli more nearly approximating the complexity of the phenomenon under investigation" (Brown, 1980, p. 189). Every attempt should be made to ensure the Q-set broadly represents the issue under study, however, it is not realistic to expect each Q-set to be perfect (Watts & Stenner, 2012).

Alongside the process of reducing the overall number of statements is the refining of the Q-set statements themselves. A critical consideration in the selection of items for a Q-set is that the statement reflects as closely as possible how it was presented by the participant to ensure it expresses what they wanted to say (Brown, 1980). However, it is permissible to change tense, adjust grammar or correct spelling to ensure clarity. A typical Q-set is between 40 and 60 statements (Brown, 1996; van Exel & de Graaf, 2005); fewer than this risks insufficient coverage of the issue, and larger numbers of statements are cumbersome to work with (Watts & Stenner, 2005) and do not necessarily add more information.

Identification of the Q-sets for the present study.

A simple but systematic and rigorous process was employed to identify a balanced Q-set. The approximately 230 statements that were gathered during the focus groups were each typed and then cut into strips, so that each statement could stand alone. The statements were spread on a large table with similar statements grouped together. I looked for a balance for those for and against as well as recurring themes, with similar statements collected together. No formal balanced block design was used when selecting the 44 statements for the Q-sorts; however, every attempt was made for the Q-set to generally represent of the opinions of the mothers who attended the focus groups. According to Watts and Stenner (2012), "The main aim of the Q-set design is to generate a set of items that provides good coverage in relation to the research question" (p.58).

Statements were only slightly changed if it seemed minor editing would clarify a particular idea. For example, statement number 35 initially read "The repeal of section 59 destroys the God-given rights of parents to raise their own kids". This was edited to read "The repeal of section 59 destroys the rights of parents to raise their own kids" by deleting "God-given". There are two points to note with this phrase. Firstly, most reference to the legislation was "the repeal of section 59", and as discussed earlier in this thesis, this was how the legislation was referred to even after the Act became Law. Secondly, to avoid any confusion that can arise when one part of a statement may be agreed with yet another part of the statement disagreed with, each particular statement in a Q study must cover only a single concept. In the initial example, an individual could agree with the concept of parental rights but disagree that these are "God-given". Another example of a statement that was slightly changed was number 26. This originally read "Obviously it is sometimes necessary to smack our children because we want them to grow up well". The word "obviously" was omitted, again to ensure that only one concept was included.

146

Editorial changes were always undertaken in a way that aimed to preserve the integrity of the positions identified in the development of the initial concourse. Both the focus groups and literature review brought into view the significance of "anger" as a strong emotional component of child rearing. It is acceptable for statements to be imposed upon the concourse (van Exel & de Graaf, 2005), when a specific idea surfaces in unclear or ambiguous ways as anger did in this study. The statements in the focus groups included comments such as "anger is a negative emotion", "it isn't ok to hit your child in anger", "it's dangerous to be angry", and "angry people are more likely to smack". Given that anger was mentioned frequently in the focus groups and in the literature, four specific statements were added to the Q-sort. First, various statements about anger were consolidated in the following statement: Statement 5, "We are more likely to smack a child if we're feeling angry, frustrated or tired", so that the response of the participants might indicate an acknowledgement – or not – of a smack as a result of frustration rather than a disciplinary measure. Second, to address both anger and the perceived connection between angry individuals and violence in society, in consideration of the Continuum Theory, the following Statement 21 was added: "It's no wonder we have a violent society since there are so many angry and aggressive individuals in New Zealand". Third, a similar statement, but one that includes direct reference to smacking and assumes that a smack is violent led to Statement 38: "The more people think smacking is ok the more violent the society". Finally, Statement 44, "How much violence there is in a country has nothing to do with how we raise our kids" is included to consider the influence of parental styles and attachment theory. The implications of these statements are elaborated on in Chapter 8.

Once the Q-set was finalised, each statement relating to child discipline issue was printed on a card and randomly assigned a number entered in the upper left hand corner (see Figure 1) so the numbers could be entered onto an A4 Q-score sheet once the participant finished sorting the statements and then again later for the analysis. The participants were given all the 44 cards (i.e. the Q-set) similar to a deck of playing cards, to sort from those they most disagreed with to those they most agreed with. (2)

It's never ok for a parent to smack their child.

We are more likely to smack a child if we're feeling angry, frustrated or tired.

Figure 5: Example of Q-sort cards used in the present study

(5)

The Q-sort.

The next step of this exploratory study was that the participants were invited to rank order the statements. The participants use the statements that comprise the Q-set to express their own viewpoint, by endorsing some and rejecting others. If a Q-sort has met its goal of providing participants with a concourse that embodies a range of statements and represents multiple discourses on a specific issue, participants are able to express their viewpoint through the statements provided.

Before the Q-sort is administered, the researcher needs to ensure *the condition of instruction* is clearly articulated. The condition of instruction is the precise focus the participant is provided with to ensure that all the participants are responding to the same research question. This instruction is a critical element in Q methodology (Watts & Stenner, 2012) as it ensures replicability between one sort and the next, and thereby provides reliability of the process (van Exel & de Graaf, 2005) – if each participant is given exactly the same instruction about how to manage the sorting process, their resulting sorts will provide comparable data.

A key feature of the Q-sort technique is that it demands a ranked distribution whereby all cards are placed in relation to each other. Commonly, this distribution is forced through providing a matrix in which extreme responses, at either end of the continuum, are limited (see Waltz et al., (2005) for a more detailed discussion of forced verses unforced distributions). To facilitate the more nuanced response of a forced distribution the score sheet presents limited options at either end and more numerous options in the centre. A "most" to "most" distribution, for example, "most disagree" to "most agree" is preferred to "least agree" to "most agree". While a participant may disagree with all of the statements, the forced distribution encourages them to disagree with some more than others (Brown, 1980; McKeown, Hinks, Stowell-Smith, Mercer, & Forster, 1999). Some participants may express a preference for more spaces at one end of the continuum or the other; however, only a specific number of statements may be placed in each column (Shemmings, 2006) and each statement is placed in relation to the other (Brown, 1980). Ranked sorting begins with the extremes and moves towards the middle, although the middle may also hold those statements that are not yet clear to the individual participant or comprise something in the "too hard" basket, thus the "0" column may or may not represent a neutral response (McKeown & Thomas, 1988), with the poles designed to capture very strong feelings.

If the Q-sort is done in person, or even in an online Q-sort context, participants are often encouraged to process their thinking aloud while they sort the statements, and then to reflect on their thinking at the end of the sort process. Demographic data may also be collected from the participants at this time, although this can be misleading as it can lead the researcher to look for patterns amongst the participants rather than patterns amongst the statements. Demographic data can be useful if the researcher has a hunch that certain responses may be more prevalent within particular participant groups and this could help guide the direction for subsequent, non-Q research.

The Q-sort for the present study.

Mothers were invited to sort the Q-set of attitude and belief statements relating to the use of physical discipline that had been rendered on 44 individual Q-cards. They were invited to place each card on a Q table set out in a quasi-normal distribution (see Figure 6: Q-score sheet), such that each card best represented their response to the condition of instruction. When each cell of the grid filled with one statement from the Q-sample the sort was complete: for example, the grid for this project has 44 cells as there are 44 statements for participants to sort.

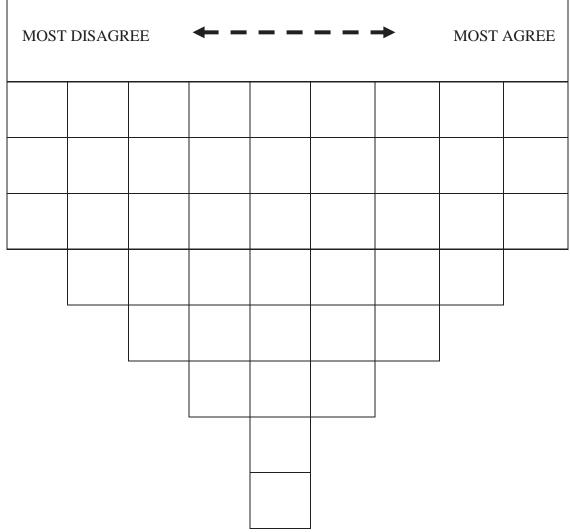


Figure 6: Q-score sheet

There were nine columns on the Q-score sheet and each column allowed for a certain number of cards to be placed underneath. Various debates about the ideal number of columns on the continuum exist for the Q-sort, although most have found 9 to 11 to be the optimal number (Waltz et al., 2005). The columns ranged from "Most Disagree" (-4) to "Most Agree" (+4). For the -4 and +4 columns, three statements were allowed. For the -3 and +3 columns four statements, for the -2 and +2 columns five statements, and for the -1 and +1 column six statements were allowed. Eight statements were allowed in the centre 0 column. The participant would consider some statements a number of times while placing cards and were allowed to adjust the statement cards until they were satisfied with their placement.

The *condition of instruction* for the present study was: "How do you view the issue of the physical discipline of children? Please note that this study is not on physical abuse, rather, the light physical discipline of children. Please sort the statements on the cards in order to best illustrate your position". Note that the condition of instruction does not require that participants make value judgments for or against physical discipline, nor to define the degree of discipline involved. The researcher did not make any indication to infer smacking was violent. Rather, this exploratory process invited participants to sort the statements without the constraint of an aforementioned position.

Once the participant placed all the cards and confirmed there were no further adjustments, the position of each numbered statement was entered on the Q-score sheets and double-checked to ensure that the score sheets accurately represented the placements of the statement cards for that participant. All comments made or questions asked by the participant were recorded.

The Q-sort statements were piloted with six individuals to ensure that the statements were unambiguous and clear. Participants for the pilot Q-sorts included the researcher's supervisors, a colleague familiar with Q methodology and two PhD candidates. Minor adjustments from the pilot Q-sorts included further refinement of the statements, clarification of instructions, and a change in my physical position relative to the participant as they worked with the cards. For example, participants in the pilot Q-sort responded more freely with comments when I sat beside them and seemed to be reading while they sorted the statements. The results of these pilot Q-sorts were not included in the final analysis or data collection, nor were any of those participants part of the wider study.

The Findings chapter reports on both the qualitative data gleaned from the comments during the short interviews after the Q-sorts, and the quantitative data derived from the rank ordering of the attitude and belief statements.

Semi-structured interviews.

Often overlooked in Q studies is the follow-up interview (Brown, 1980). Short, semi-structured interviews to follow the Q-sort are becoming increasingly common as a technique to capture participant motivations and explanations for their processing and subsequent placement of statements. According to Watts and Stenner (2005) the interview will "aid the later interpretation of the sorting configuration (and viewpoints) captured by each of the emergent factors" (p. 78-79). Brief interviews directly following the Q-sort help establish some of the reasons for the positioning of the statements, particularly those at the two extremes of the distribution. Although there is a growing support for computerised Q-sorts, the interpretation of the comments made during the sort and the interviews following the sort often further enable understanding of the results. Given that the factor analysis provides a model of similar viewpoints on the issue under study, the interview provides an opportunity to understand the way the individual thinks, and helps interpret the factors later on in the analysis of the data (Brown, 1980; van Exel & de Graaf, 2005). What is often explicitly overlooked in the sense making of the study following the Q-sort and factor analysis is the role of the researcher in interpreting the viewpoints indicated by the factor analysis. Once the Q-sort has been administered and the results recorded, it is time to move to the factor analysis of the data.

Semi-structured interviews for the present study.

The semi-structured interview that followed the Q-sort included questions about whether any attitudes or beliefs were obviously (or not so obviously) missing from what they were provided with, which attitude statements were the most difficult to place, if any statements were confusing or ambiguous, particularly interesting, or if there were strong feelings or reactions about any of them. All comments or questions were recorded. The participants openly commented on whether or not they smacked their children, and how they felt about the issue. Comments particularly forthcoming were with reference to anger and frustration. Semi-structured interviews took place only with the first 24 participants (see the explanation in the later *Participants* section). During the Q-sort, participants often made comments or expressed agreement or disagreement with a particular attitude or belief. Cards were often shifted around during the process. Once the Q-sort was underway, the researcher was silent, refraining from agreeing or disagreeing with the participant or passing other comment. Some statements elicited more response than others. For example, Statement 2, "It's never ok for a parent to smack their child", frequently elicited a response. Participants often commented on whether or not they were smacked as children or if, in fact, they smacked as mothers. During the process of the Q-sort the position the participant held frequently emerged, and at the end of the Q-sort it was usually clear if they were for, against or undecided/in the middle/neutral/unsure on the smacking issue.

Factor analysis.

There are multiple solutions that are acceptable in the statistical factor analysis for a Q study. It is critical, therefore, to have a good look at the data to ensure that no viewpoints of "interest or theoretical significance" are overlooked (Watts & Stenner, 2012, p. 110). There are distinct aspects of all Q methodological studies that lead to *factors*. A factor "represents a variety of participant viewpoints" (Wright, 2013, p. 154) or "identifies a group of persons who have rank ordered the provided items in a very similar fashion or, in other words, a group or persons who share a similar perspective, viewpoint or attitude about the topic at hand" (Watts & Stenner, 2012, p. 22). Factor analysis aims to expose patterns of association between a series of variables through a variable-by-variable correlation matrix which provides a comparison of the Q-sorts with levels of agreement or disagreement and further distinctions (Watts & Stenner, 2012)

The main tool that underpins sense making in Q methodology is factor analysis: a statistical procedure that allows a researcher to determine similar patterns of responses in what might otherwise be perceived as unpatterned, individualised data. Factor analysis does not deliver precise, incontestable results but rather provides a set of data researchers can use to help identify latent patterns. A factor array is "*a single Q sort configured to represent the viewpoint of a particular factor*" (Watts & Stenner, 2012, p. 140). When a factor array is rotated so that different patterns

emerge, an abducting researcher scans the emerging logic carefully in order to note the pattern of items contained in each factor array. According to Watts and Stenner (2012):

The whole ethos of Q methodology is built around the production of item *configurations*. We ask our participants to consider the items of a Q set relative to one another and to create a single gestalt or Q sort on that basis. The Q sort captures their viewpoint *as a whole*. Thereafter, the analysis proceeds via the intercorrelation of whole Q sorts – complete configurations of items – and factors are located and extracted on that basis. (p. 141)

Factor analysis is not so concerned with the individual Q-sorts; rather, the "revealing patterns of association between all the variables in a given data matrix" (Webler et al., 2009, p. 8). In a Q methodology study, not only do social perspectives emerge, but the attitudes or beliefs with the greatest disparity and consensus, similarities and differences between social perspectives (Webler et al., 2009) also emerge through both the sorting and the recording of participant commentary.

As mentioned previously, there is a range of different software products now used to analyse the data. However, the one most frequently used is free to download, the software package *PQ Method* (Schmolck, 2002), version 2.11. The scores of each participant for each statement are entered into the database. PQ Method identifies the relative scores for each statement in the Q-sample and, as a result, it is possible to identify which statements are in most disagreement with each factor, and which ones are in most agreement (Watts & Stenner, 2012). PQ Method outputs data to the researcher in tabular form so that it is possible to see which Q-sort loads to which factor. Known as a correlation matrix, each Q-sort of each participant is portrayed with every other Q-sort, thus every viewpoint is represented (Watts & Stenner, 2012).

There are two methods of factor analysis within Q, the centroid factor analysis (CFA) and the principal components analysis (PCA) (Watts & Stenner, 2012). Whilst still debatable over which is preferable, CFA is often preferable given

decisions may be made on a theoretical basis, when factors emerge that fit with a theoretical standpoint the literature may identify. This is in contrast to PCA, where factors are determined by mathematical considerations only. Rotation of the factors is used to produce differences between the factors. Factors are extracted from what is referred to as a correlation matrix (Watts & Stenner, 2012), which shows how expressed views cluster (Peace et al., 2004). Participants who placed attitude and belief statements against similar scores are clustered together. In other words, the final factors provide the "best possible theoretical explanation of the relevant factor array" (Watts & Stenner, 2012, p. 41).

There are various summations of analysis provided by the PQ Method as well as intercorrelations between participants' Q-sorts (Peace et al., 2004). It is possible with Q to identify clustered views and examine where the discussions around the issue gather to facilitate a conceptualisation of the issue to allow further exploration. A presumption from Q is that there is no single view. The cluster viewpoints are a starting point for understanding the issue, which for the present study surrounds the attitudes and beliefs of a cohort of mothers in New Zealand on the issue of the physical discipline of children.

Similar to the differences between CFA and PCA, there are also two ways to rotate the factors. Varimax rotation is mathematical, whereas hand rotation is more theoretical and abductive. Varimax is often preferred for exploratory research such as the present study. Hand rotation (also called judgemental rotation) may physically manipulate the rotation to test a variety of ideas, and the other factor scores move away or towards viewpoints. The interrelationships and positions of the factors are examined during factor rotation and the best explanation for unexpected correlations (Watts & Stenner, 2012).

Finally, in the analysis, each statement has a score on a factor, and each participant has a *loading*. If the analysis reveals participants who have significant agreement with one of the factors, this is referred to as a loading (Brown, 1980). The researcher must analyse many possible solutions and attempt to provide an analysis that explains as much of the variance as possible while also loading as many participants

onto the chosen number of factors as possible. To develop a plausible narrative about what the Q-sort analysis reveals the researcher needs to carefully consider the viewpoints of the participants. Consideration of the entire item configuration is important to fully interpret a factor with a holistic approach (Watts & Stenner, 2012), and every item in a factor array needs to be explained or interpreted.

Various conditions are recommended to ensure the analysis is valid. Ideally, a Q factor needs at least two Q-sorts that specifically load on it. These are referred to as factor exemplars, and are representative of that factor as they characterise the shared configuration that is representative of that factor. Any other indications are noticeably insignificant. Typically, small sample sizes are feasible with the Q-sort because once the sample size reaches a particular threshold, the benefit of adding a new subject becomes marginal, thus additional subjects produce little new information statistically (McKeown et al., 1999). According to Q literature, it is usually considered sufficient to have four to six participants who "define" a perspective (Webler et al., 2009), yet as few as three are recognised by some as enough (van Exel & de Graaf, 2005). The aim of this methodology (and method) is to establish the social perspectives that exist on the topic under study, not how many in the population agree with the particular social perspectives. This is part of the abductive value of Q.

The researcher must choose the best way to analyse the data and pay close attention to the various possible solutions (Webler et al., 2009). The clusters of attitudes are examined carefully to see what patterns might emerge from the data, and it is both the participant's subjective viewpoints that influences the way the data manifest, and the researcher's analytic abductions that are also embedded throughout a study (consciously or unconsciously) (Creswell, 2003; Denzin & Lincoln, 2008).

The data from a Q study is not generalisable and the present study did not intend to test any hypothesis. Rather, and this is a crucial point, the aim of Q analysis is to sample the full range of viewpoints through abductive logic rather than reflect the relative popularity of those viewpoints within the broader population, and generate a new view of looking at the issue under study. Since the data are not generalisable,

the findings provide data that may be the starting point for wider studies. It is important to note that the intention of the study is not to conduct an opinion poll. The aim of the analysis is to interpret the factors that condense around particular viewpoints in order to be able to make qualitative commentary on the distinctive ways of thinking that constellate around the question at issue. Allowing the researcher's interpretation to *explicitly* add meaning to the factor analysis is one of the hallmarks of Q methodology. Social perspectives may emerge through the sorting process and the subsequent study of the factorial patterns that have not yet been recognized, explored or taken narrative form (Brown, 2000). The factor analysis for this study will be elaborated on in the next chapter.

Factor analysis for the present study.

The raw scores for statements on each factor run from about -2 to +2 as by default they are scaled to have a standard deviation of 1. As a result, the diagram of statements arranged by factor scores uses the raw scores; all the subsequent description uses the rescaled version. Since the template for the data collection ranges between +4 and -4 when the participants rank order the statements from those they most agree with to those they most disagree with during the Q-sort, it will be necessary to rescale the results from the output of the principal-components analysis, the specific form of factor analysis employed for this study.

In the present study, the attitude and belief statements of a cohort of mothers in New Zealand were analysed to identify key viewpoints based on the factor analysis of Q-sorts and their intercorrelation (Watts & Stenner, 2012). The social perspectives that emerged highlight the attitudes and beliefs of a particular cohort of mothers at a particular time of history in New Zealand on the physical discipline of children.

Ethical Considerations

The present study is on the issue of physical discipline of children, which is a potentially sensitive issue and includes several geographical locations. As a result, the Massey University Human Ethics Committee (MUHEC) advised that this study required ethics approval from the Central Regional Ethics Committee (referred to as the Health and Disability Ethics Committee (HDEC) through the Ministry of Health). While on the surface, a study of physical discipline would incur high level

ethical oversight, a more robust understanding of the non-intrusive nature of Q methodology, by the initial ethics panel, could have led to this study being subject to only MUHEC rather than HDEC review. Similarly, such an extensive ethics review by Plunket would not have been necessary.

The ethics approval process was thorough and lengthy. Each of the respective committees considered their respective ethics applications carefully and independently of each other. Each application required clarification, additional information, or amended responses. Once the HDEC granted full approval (reference: CEN/07/12/082), it mailed a letter to MUHEC to confirm that the safety of participants was carefully considered and that approval was granted. Plunket invited me to meet with the nurses, midwives and staff twice before the notices went out to recruit participants, once in Levin and once in Palmerston North. Once the resubmitted applications received full approval for the study from HDEC and Plunket, the study could begin.

Given that the nature of the study was on the physical discipline of children and the assumption that discussions of violence may be involved, all stages of the research process were approached with sensitivity. Although psychological risks for the participants were not anticipated due to the design of the study, this possibility had to be considered. Participants were informed of the precautions taken. For example, the information sheets informed participants that should any physical or psychological risks or side effects occur, their safety was considered paramount. I am a trained and experienced counsellor, hold professional membership with New Zealand Association of Counsellors (NZAC), and am fully aware of the potential safety concerns for participants during this process. I also had access to three PhD supervisors, a professional NZAC membership supervisor, as well as the Massey University Counselling Department, whom I could consult if needed. Two staff members from the School of Health and Social Services agreed to be available should there be any issues or concerns regarding Māori protocols or any other particular cultural issues that required attention. Each Plunket Centre where the focus groups were held, as well as each participant, had the full contact details for my first supervisor and for the HDEC to liaise with should the need arise. In

addition, each Plunket Centre had a designated qualified counsellor who was a current member of the NZAC available for a free one hour consultation to clarify, assist, support and refer any participants, with the possibility of further counselling through appropriate individual or agency should the need arise. For example, should there be any disclosures of violent behaviours not already being addressed, the designated counsellor would be consulted for the safety of the participant. The participant could then receive one hour of counselling and where considered appropriate, receive a referral for further counselling with an appropriate counsellor, dependent on needs and locations. At the end of the study, none of the participants had followed up on any of the safety procedures throughout the duration of the study.

All participants were provided with the contact details of both the researcher and her supervisor and were assured of confidentiality in line with the researcher's NZAC Code of Ethics. They were encouraged to contact me at any point during and after the gathering of the data should there be any questions or concerns, although no participant did. Participants were assured that all data would be kept confidential and stored in a locked file cabinet at my personal address for a minimum of 10 years. No further work is planned for the raw data on completion of the present study. Participants have also been told the completed thesis would be available in the Massey University library and that a summary of findings would be made available to each of the Plunket centres involved in the study and to the head office. In addition, I have offered to return and give a presentation of the present study is to be provided to Plunket as an acknowledgment of the goodwill for the support of their organization.

The Plunket Rooms were a suitable location to hold the focus groups for a number of reasons. Plunket is associated with the care of young children, their rooms were convenient, included play areas for children, and were available in the various localities in the lower part of the North Island where the research was conducted, and they provided a framework for ethical approval that was appropriate for the study. Plunket is a national, not-for-profit community-owned and non-government

organization in New Zealand and is the largest provider of health services for children under five, seeing more than 90% of new-borns in New Zealand each year.

Participants

The participant group, or the P-set, must be carefully considered as it is a key aspect of a successful Q study. According to Brown (2010) the P-set needs to consist of a group who are key to the research question. Given that in a Q study each participant becomes a variable, it is necessary to ensure that the P-set is not overly homogenous, the P-set has interest and opinions on the topic under study (Watts & Stenner, 2012), and that the criteria for entry into the study are clear.

In this context, therefore, it is important to signify why the focus for the present study is on a cohort of mothers in New Zealand. First, the rationale for the participants to be mothers socialised in New Zealand reflects the consideration that maternal socialisation is interrelated with attitudes and beliefs towards the physical discipline of children. Second, traditionally, it is mothers who are the primary caregiver for child(ren), thus have more contact and are more likely to smack their children for disciplinary reasons than fathers (Wolfner & Gelles, 1993). It is also more likely that a large number of female-headed households increase the probability that mothers are the disciplinarians. New Zealand has a high rate of solo mothers (OECD, 2011), who are also frequently the fulltime caregiver and homemaker. Thus, for this study, an identifiable group of primary caregiver(s) was chosen. However, there are a growing number of fathers now in the more traditional child rearing role and stay at home, who could provide additional information for future research. Likewise, the study might focus on parents or grandparents.

While the above criteria to be a participant were consistent for all of the participants, a first group were involved in the focus groups and helped develop the concourse and the remaining participants actually took part in the Q-sorts. Mothers who participated in the focus group did not take part in the Q-sorts. All consent information was gathered from all of the participants before any involvement with the study.

As the study progressed it became apparent that there was some disagreement between the research supervisors about how many participants would be needed to produce a valid number of Q-sorts. Watts and Stenner (2012) suggest that the ideal number of Q-sorts is in the range of 40-60 and the initial number of participants recruited was only 24. While this cohort of data was used in the first instance, questions about the "validity" of the findings led to a follow-up recruitment of a further 24 participants. The issues created by this process are discussed in the following sections as they arose. However, inclusion of the expanded cohort did not appear to affect the overall findings.

The split P-set used in this thesis is, on reflection, undesirable and also unnecessary. There was nothing further added to the analysis through increasing the number of participants – particularly introducing them at a later stage. The instructive message to other researchers working with Q Methodology is to ensure that the advice they follow is provided by people who are conversant with the method. As I now know, the original P-Set was sufficient. In this respect it did not matter that qualitative data was not collected to complement the second P-Set.

The first group of 24 mothers were asked to allow up to two hours for the Q-sort and the semi-structured interview directly following the Q-sort, and were invited to think aloud as they sorted through the statements. The second group of 24 mothers followed the same condition of instruction as the first group, with the only difference being that they did not have a semi-structured interview following the Q-sort. In retrospect, the omission of the interviews (which was a time-expedient) was unfortunate as it made the additional commentary data from the first sorts less useful than they might otherwise have been. Given the researcher role in the abductive analysis, however, they were able to be used to some extent. In both research instances, the participants were reminded that the intention was simply to invite them to state their positions through the rank ordering of the cards, that there were no right or wrong answers, and that cards could be changed and rearranged at any point.

To begin gathering the participants, I ran an initial advertisement in the local newspapers. The only criteria to be a participant for the study were to be a mother

(of any age) and to have attended school in New Zealand since the age of 5. Unfortunately, for the first advertisement the part about the participants needing to have attended school in New Zealand since the age of five 5 was inadvertently omitted. As a result, a number of immigrants (approximately 10) responded to the notices and expressed disappointment that they did not meet the criteria, thus were unable to participate. Although it is likely the catalyst for this interest was the topical nature of the issue, the fact that so many immigrants expressed interest is noteworthy. It would have been interesting to know how long they had been in New Zealand and what they thought of the controversy over the smacking debate that was going on in the country at the time. As with fathers, this is another cohort of caregivers in New Zealand who could be considered for future research. The correction was noted and any further communications clarified the two criteria: to be a mother and be raised in New Zealand.

Snowball sampling, where mothers who found out about the research encouraged others to participate, meant it was not difficult to recruit participants. An important distinction for Q methodology is that the diversity of the participants is more important than the actual number for the purposes of comparison (Brown, 1996; ten Klooster et al., 2008). The range and variety of views, not the number of people expressing them (Kitzinger, 1987), facilitates the phenomenon of study from the participants' perspectives and helps determine the differences between those social perspectives as well as identify the individuals who share common points of view (Brown, 1980).

The present study did not focus on demographics. However, a summary of the demographics of the mothers involved in the study is included in Appendix O. Where demographics are collected as part of Q studies they provide an opportunity for the researcher to consider whether or not different cohorts could be recruited for in-depth interviews to specifically explore cultural differences in attitudes and beliefs. In this case, for example, there is some discourse in New Zealand that ethnicity may be influential on widely-held co-ethnic attitudes to physical discipline, so that future qualitative interviews could explore Māori compared with Pacific, compared with Anglo-European cohorts. Similarly, had the participants been asked

if they were beneficiaries or beneficiaries at the time they were raising their children, this could have triggered researcher curiosity about such a variable for further research.

Limitations

There are often limitations that become obvious during a study or in hindsight, and this study is no exception. While every effort is made to ensure the study is rigorous and the findings robust, there are aspects that the researcher learns and might do differently next time. Encouragingly, Stainton Rogers (1995) maintains that "even a less than ideal [Q set], because it invites active configuration by participants ("effort after meaning"), may still produce useful results" (p.183). There are five limitations for the present study that make it less than ideal. These limitations include the collection of data in two stages, condition of instruction, the double meanings that remained in statements in the concourse, the statements of "universal" values, and that no formal balanced block design was used.

Firstly, to gather the data in two stages may be considered either a point of strengthening or a possible limitation. The first round of data (and the interviews) was gathered in the aftermath of the legislative changes, when public involvement with the issues that surround the use of smacking as a disciplinary tool was extremely high. The second round of data was collected two years later. The Q statements in this research were seeking to capture the discourse "at the time" of the legislative change and therefore statements elicited from the media may have influenced the Q set development and the participant responses. Such influence is immaterial to the purpose and outcome of the study which was not seeking "truth" but rather the articulation of a range of views. As Watts and Stenner (2012) suggest, the exact details of statement selection is not crucial for the efficacy of Q-method. Similarly, it could be argued that participants may have been influenced through their interpretation of my position on the issue, and sought to "please the researcher" by anticipating responses I may have approved of. However, the Q-sort process is intensely personal and focused and is not interrupted by the researcher so that even the researcher's presence fades from the participant's view.

Secondly, the phrasing of the condition of instruction may have influenced the participants. The condition of instruction for the present study was: "How do you view the issue of the physical discipline of children? Please note that this study is not on physical abuse, rather, the light physical discipline of children". In retrospect, it may have been more productive to phrase the condition of instruction: "To what extent do you agree with the following statements concerning the physical discipline of children?" The introduction of the term "abuse" may have predisposed the participants to think there could be a connection between physical discipline and abuse.

Thirdly, double meanings remained in statements in the concourse. In the initial cull of the concourse, the intent was to include only single meaning statements. However, in hindsight, and particularly during the analysis phase, it was possible to see that several of the statements may have been interpreted with more than a single meaning, and this may have compromised the response of the participants.

Fourthly, the UN discourses about the rights of the child are widely subscribed to in New Zealand and underpin basic assumptions about the care of children. During the defining of the Q sort, three statements were accepted that, in hindsight, are representative of "universal" values and are statements that most mothers would strongly agree to. It is possible that if those statements had been excluded the analysis might have produced greater variance.

Finally, no formal balanced block design was used when selecting the 44 statements from the approximately 230 that were gathered during the focus groups. Since each statement was typed and spread onto a table with similar statements gathered, a careful and considered process of narrowing the statements ensued. I looked for a balance representation of the statements for those for and against as well as themes. However, in hindsight a more formal narrowing of the statements may have ensured that the issue of physical discipline was indeed broadly represented.

Summary

The present study explores the attitudes and beliefs of mothers in New Zealand towards physical discipline. Q methodology was chosen as an approach to surface clusters of viewpoints on this topic as this is the most effective methodology for this. This chapter has described the rationale of the present study, justified the research design, discussed the concepts of abduction and subjectivity, and the methodological frameworks of Q. Ethical considerations have also been discussed. Methods of collecting and compiling a concourse and the process of factor analysis have been outlined. This chapter has set the scene for the extraction of findings that are discussed in the next chapter within the context of limitations that have been systematically identified.

CHAPTER 7 - FINDINGS

It [Q-methodology] is, therefore, particularly suited to studying those social phenomena around which there is much debate, conflict and contestation ... for its express aim is to elicit a range of voices, accounts and understandings. (Barry & Proops, 1999, p. 339)

Introduction

This exploratory thesis is framed around the identification of social perspectives held by a cohort of mothers in New Zealand on the issue of physical discipline of children. Q-methodology provided a process for social perspectives to emerge, and abductive logic was employed to approach the data. The purpose of this chapter is to present the overall findings from the Q-sort analysis based on the interpretation of the Q-method factor analysis. The various approaches to the data that Qmethodology provides will be evident. The presentation of the findings explains the "whole item configuration" (Watts & Stenner, 2012, p. 149) and begins with summaries of the two factors that emerged and the identification of statements with the greatest agreement, disagreement, and disparity. Statements ranked in or near the 0 column are also considered, with contextual information and observations by the researcher included.

The insights that emerged were unanticipated, with the furore that was evident during the smacking debates premising on much more than whether one was for or against smacking. This Q study produced, on the surface, an unlikely two factor outcome. While this is relatively rare in Q Method studies, in this instance it was instructive. At the time of the debates about the Crimes (Substituted section 59) Amendment Act 2007, when the first Q sorts were undertaken, opinions in New Zealand were polarised. That the viewpoints of mothers were also polarised is unsurprising – but the confirmation of that polarisation provided useful food for thought. Why were there two apparent perspectives, and what did they indicate? The need to secure some explanation for the divergent views led to the framing of the research as a Q study explained retrospectively through the lenses of divergent literatures.

The second trench of Q sorts also indicated polarity even though they were undertaken some years subsequent to the first. This led to a closer examination of the Q sort itself and revealed some of the ambiguities identified in the limitations section of the thesis. The condition of instruction for the Q sorts needed to be more clearly articulated (see page 162 for further discussion).

The two social perspectives that emerged through the PQ analysis are referred to as Factor One (F1) "a smack is more than a smack" and Factor Two (F2), "a smack is nothing more than a smack". The discussion begins with Factor One, where "every effort has been made to produce a fair and faithful representation of this factor's viewpoint" (Watts & Stenner, 2012, p. 149).

Factor One: A Smack is More than a Smack

F1 is characterised by four themes including that children have rights; they require active legal protection; parental authority is determined in part by the acceptance of both the possibility of reasoning with a child and that children can be self-determining; and that adults other than parents may be required to intervene if physical discipline appears harsh or significantly unwarranted. This factor characterises a view that smacking carries multiple burdens beyond the "mere" physical action of administering a smack. Not smacking, being against the idea of smacking, represents a set of understandings about the role of the child in relation, not just to his or her caregivers, but to society as a whole.

The formal rights of the child are reflected in the following statements and Q-scores:

- (3) Children should be respected as human beings. (+4, +4)
- (17) Children in New Zealand, like adults, have the right to be protected from physical assault. (+4, +4)
- (31) Children are human beings who need to be nurtured and protected. (+4, +4)

These three statements of principle rated as strongly agree by both factors and elicited such responses as "even the Mongrel Mob would say yes to these", "of course", and "that's blatantly obvious".

The informal rights of the child are also a strong theme for F1 and the concept of what, exactly, is taught when a child is smacked highlights a particular way of relating between the mother and child.

- (1) Children should be allowed to disagree with their parents. (+3)
- (9) Children should learn to obey without question. (-3)
- (19) Smacking can teach respect. (-4)
- (34) Since it is not possible to reason with a child, sometimes smacking is necessary. (-3)

Noted with Statement 17, "Children in New Zealand, like adults, have the right to be protected from physical assault", the F1 group linked smacking with the need for more active legal protection of children. This was reflected with comments such as "I do think that anyone can have kids while people are sometimes screened before they can get a dog. Sometimes it seems abused animals get more attention through the SPCA (the society for the prevention of cruelty to animals) than abused children do", and "a law [Crimes (Substituted section 59) Amendment Act 2007] will help".

Comments for Statement 1, "Children should be allowed to disagree with their parents" and Statement 9, "Children should learn to obey without question" highlight issues of authority between a parent/caregiver and child as well as how children are viewed. F1 points to the idea of child self-determination, their ability to disagree and their right to challenge unquestioning obedience. Issues of context are very important in this account. Responses to Statement 1 include "it depends", "we were never allowed to, so I let my kids", "my father felt no – absolutely not, so I let my kids", and "we don't want them to become mice later on". Many of the responses indicated a desire of the mothers to raise their own children differently from the way they themselves were raised, where children were not allowed to disagree at all. Comments for Statement 9 included "oh gosh, what a terrible world that would be", "don't like the word obey", "yes, they're human beings and have to have their own minds", "I find I get better results if I debate a little bit", "not everything works the same for every child", and "depends on the age and circumstances". "My oldest grandchild is 10 and would like to think we could talk, but can't do that with a two or three year old" and "that would be nice" are other responses.

Statement 19, "Smacking can teach respect" drew such responses as "more like electric shock teaches a dog", "I don't know how physically punishing can teach respect", "doesn't make sense to me", "depends on how you define respect", and "completely disagree". A mother of two and grandmother of four stated the different viewpoints on smacking created significant conflict between her and her son and daughter-in-law when she looked after their children. She said, "I would smack on the odd occasions...a couple of times only when they were really little and I would smack the grandkids and they would be shocked". Her son specifically told her if she were going to smack his children that he would not want to leave them with her, and her response was incredulous. Although she wanted to look after them, she would not have them disrespect her, and was adamant that if she could not smack them then she could not discipline them.

Another example that indicates how the relationship between mother and child is reflected in the physical discipline of children is with Statement 34 "Since it is not possible to reason with a child, sometimes smacking is necessary". This statement was strongly disagreed with by F1 and one participant, a mother with two grown children, commented on a real turning point for her. She stated "when my youngest was four and I smacked him, he looked at me and said you didn't have to do that, you just had to tell me". She said she was suddenly aware of how frequently she smacked without even considering any other response when interacting with her children and she felt they needed to listen. Another woman said: "I strongly disagree [that smacking is necessary]. As a parent, you have to be creative and find ways to discipline. We must be taught as parents what children are like. You wouldn't smack your husband".

Another element of this factor that is quite distinct from F2 is the proclivity to include adult intervention beyond the parent.

- (4) We need to learn how to intervene if we see a child being hit severely public.(+3)
- (12) How parents raise their child is entirely their own business. (-3)

- (27) As a democratic nation parents should continue to have the right to discipline their child(ren) by force if necessary. (-4)
- (35) The repeal of Section 59 destroys the rights of parents to raise their own kids.(-3)

There was strong agreement with Statement 4, "We need to learn how to intervene if we see a child being hit severely in public". Concerns about one's own safety as well as a sense of helplessness, "what does one do?" were evident. Many mothers agreed this was a very difficult one to respond to, with empathy for the parent "having been there myself". One participant said: "I don't think New Zealanders would want to intervene. New Zealand is a sort of "mind your own business place. Society is probably changing in this regard due to the high profile cases, so possibly more likely now". The various responses for F1 participants were about how best to intervene if a child is being hit in public without getting hurt or endangering oneself, rather than whether or not someone should. The intention for this statement was on social responsibility so the phrase "hit severely" was used purposely rather than "smack", although two participants commented they would have responded differently should the statement have read, "We need to learn how to intervene if we see a child being smacked in public", because they would feel less inclined to do anything about it.

Factor 1 participants strongly disagreed with Statement 12, "How parents raise their child is entirely their own business" with such comments as "yes, as long as you don't hurt them", "yes and no", "if they're raising their children well", and "it takes a village, doesn't it". Statement 27, "As a democratic nation parents should continue to have the right to discipline their children by force if necessary" was strongly disagreed with by F1 participants. Three participants hesitated over the term force commenting that the degree of force would make a difference.

Strong disagreement for F1 is with one of the most frequently quoted statements during the media debates before the vote on section 59, Statement 35. The statement reads: "The repeal of Section 59 destroys the rights of parents to raise their own kids". Responses included: "it's hard to place this one"; "it does make you think about a parent's right to raise their own children"; and "I'm not someone for or against it so I don't know". Two mothers commented that the word "destroys" was too strong a term. Comments were made in support of the repeal of section 59 to protect children. Three mothers simply said, "I don't know".

The second factor reveals itself as independent of the first factor, despite some participants sharing certain viewpoints. The social perspective for F2 indicates more of a grappling with the challenge of practical child rearing and includes a clear distinction between smacking and abuse.

Factor Two: A Smack is nothing more than a Smack

Factor 2 is characterized by a clear sense that that physical discipline is not violence, reflects a narrative that smacking is an act that occurs between mother and child and is no one else's business, and that the physical discipline of children has no wider implications beyond being a family matter. Equally as interested in their children's well-being, those who held this perspective made a clear distinction between smacking and assault or violence. Indicated in F2 is resentment for the government's involvement in the discipline of children, and that smacking should be immediate rather than deferred.

Theoretically, it is possible that great disparity exists between social perspectives while at the same time particular viewpoints are agreed upon. Notable in this account are again the three statements of principle as identified in F1 above (3) "Children should be respected as human beings," (17) "Children in New Zealand, like adults, have the right to be protected from physical assault", and (31) "Children are human beings who need to be nurtured and protected". That all the participants strongly agreed with Statement 17, "Children in New Zealand, like adults, have the right to be protected from physical assault" indicates that those who hold the F2 perspectives do not associate smacking with assault or violence.

This seemingly obvious assumption, whether or not smacking is an act of violence, is one of the key areas of contention in the interpretation of Article 19, paragraph 1 in CRC, as elaborated on in Chapter 2, and is significant with respect to the interpretation of legislative laws that now indicate a light smack is, in fact, viewed as a violent behaviour.

Surprisingly, what stood out from those who held the social perspective of "a smack is nothing more than a smack" is the resentment of government intervention. Of all the areas identified through the attitudes and beliefs through the Q-sorts, it is with the area of privacy and responsibility there was a particular disagreement, hesitancy and uncertainty. The divide was not focused on the involvement of others to intervene if a child was hit severely in public or the protection of children from parents who cannot control their temper. Rather, the divide was on the role of the government and any type of social involvement with the way children are raised.

The following statements provide links to the involvement of government or others in the managing of children:

- (4) We need to learn how to intervene if we see a child being hit severely in public. (+3, 2)
- (11) No one should tell me how to raise my kids. (0, 0)
- (12) How parents raise their child is entirely their own business. (-3, -1)
- (20) It's a slippery slope when how we raise our kids becomes a social responsibility. (-1, 1)
- (28) I'm not going to be told what to do by a nanny state. (-1, 0)
- (36) New Zealand parents are capable of determining what is reasonable force and this is not the business of government. (-2, 1)

Statements 4 and 12 were mentioned previously as they were strongly agreed and disagreed with by F1. It is not clear why Statement 11, "No one should tell me how to raise my kids", was placed under the 0 column for both factors. Comments were "tricky" (3 people said), "people should seek advice", "agree, but if you are abusing your child...".

Responses to Statement 20, "It's a slippery slope when how we raise our kids becomes a social responsibility", included "it takes a village, doesn't it", "social

responsibility taken too far" and "thoughts of Nazi Germany come to mind". One participant referred to this as a "dangerous statement".

Statement 28, "I'm not going to be told what to do by a nanny state", was disagreed with slightly more by F1, although rated as "0"by F2. "Nanny state" is a colloquial expression used in a pejorative sense in reference to government when policies are perceived to encroach excessively on private rights in the desire to protect or control its citizens. One participant suggested that "nanny state has a New Right discourse around it", while another concurred that it was a phrase that National [the then conservative majority party] used against Labour [the centre left minority party]. "Labour doesn't use it with National. It's usually with welfare and social policies". Another commented on how reactionary the phrase was, and how it "goes against social responsibility". Given that "nanny state" was frequently invoked in the public debates in New Zealand on the issue of smacking children, it is possible that participants were unsure how to respond to this statement.

Statement 36, "New Zealand parents are capable of determining what is reasonable force and this is not the business of government" was a statement with more than one aspect to respond to, so responses are responses are uncertain. It would have been clearer to state: "New Zealand parents are capable of determining what is reasonable force" and/or "It is not the business of the government to determine what is reasonable force when smacking children". Ambiguity may be expected with statements such as this one as it is unclear which part the participant is responding to when there are two aspects offered. Responses included: "I think that's why the government is involved, because people have not been able to determine reasonable force", "we've seen parents aren't capable so that's not really a logical argument"; "we need legislation for abusers of children"; "we've proven we are not capable", and "I think a lot of parents, if they were honest, know it's wrong".

The next section will approach the results from the perspective of Factor Two in more detail by examining the greatest disparity amongst the statements. The focus is on trying to understand more about what underlies the sentiment that "a smack is nothing more than a smack".

Disparity

Another approach to Q-data includes not only what attitudes and beliefs are agreed or disagreed with, but which ones have the greatest disparity. The statements below indicate the attitudes and beliefs with the greatest degree of difference between them as indicated in the factor array:

- 2 It's never ok for a parent to smack their child. (2, -3)
- 8 I'm anti-abuse not 'anti-smacking. (0, 3)
- 10 It is excusable for a parent to smack a child under certain circumstances. (-1, 2)
- 13 It's useful to say 'wait till your Father gets home'. (-1, -4)
- As a democratic nation parents should continue to have the right to discipline their children by force if necessary. (-4, -1)
- 34 Since it is not possible to reason with a child, sometimes smacking is necessary. (-3, 1)
- The repeal of Section 59 destroys the rights of parents to raise their own kids. (-3, 0)
- 36 New Zealand parents are capable of determining what is reasonable force and this is not the business of government. (-2, 1)
- 38 The more people think smacking is ok the more violent the society. (1, -2)
- 39 Our society is like it is because we've allowed smacking for so long. (0, -3)

Five themes emerge from this disparity analysis, with a sixth theme being indeterminate and worth further research. First, there are certain circumstances when it is ok for a parent to smack a child and second, this is sometimes necessary since children cannot be reasoned with (2, 10, 34). Third, there is a clear distinction between smacking and abuse (8) but fourth, there is some suggestion that New Zealand parents struggle with determining what reasonable force is. This point also emerges in the difference between the two factors over the necessity for the "repeal of Section 59" (27, 35, 36). Finally, F2 suggests a disjunction between smacking and violence in society (38, 39). The question of whether or not smacking should be deferred or that discipline is better suited for fathers is not clear (Statement 13) and this lack of determination along with clear disparity suggest this as an area worthy of further exploration.

Having outlined the attitudes and beliefs with the greatest disparity between the two social perspectives, the next section will look at statements that do not hold high rankings that also need to be carefully considered.

Neutral Positions

As mentioned in the previous chapter, in Q-methodology statements that end up with a 0 or low score do not necessarily indicate a neutral or indifferent position. Watts and Stenner (2012) warn:

against the tendency to assume that a zero or near zero ranking in a distribution is indicative of neutrality, total indifference or a general lack of significance or meaning. This assumption will often be correct, but on occasion an item sitting right in the middle of the distribution can act as a fulcrum for the whole viewpoint being expressed. (p.154-155)

A good example of items that end up near the neutral position is the statements in the section above on the role of government and the physical discipline of children. Such issues were dominant in the focus groups and media yet did accrue high scores in the Q-sort. As with any statement at any point of the spectrum, the possible interpretation of where they are placed in relation to others may indicate an important aspect of a particular perspective.

Note the following statements without great disparity and a rank of 0 or a low score:

- (6) Children are more likely to be smacked if the family is poor or not well educated. (-1, -2)
- (15) Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men. (0, -1)
- (21) It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand. (1, -1)
- (23) Motherhood is so hard, no wonder mothers sometimes 'lose it' and hit their children. (1, 0)
- (25) Children who are beaten often become aggressive adults. (1, 0)
- (37) I got smacked and it never did me any harm. (0, 0)
- (41) Not all smacking leads to abuse, but abuse all too frequently starts with smacking. (1, 1)

(43) A lot of people are actually quite angry and frustrated with their lives and this is what really leads to the more serious hitting. (1, 1)

Statement 6, "Children are more likely to be smacked if the family is poor or not well educated" is the statement that was most deliberated over all of the statements. Participants moved this card frequently and hesitated over its final placement, and many of the participants paused and admitted they genuinely just did not know. Empathy and understanding was expressed by participants from both social perspectives for the struggle to raise children whether as a sole parent or with an extended family when there is stress and/or lack of support financial or otherwise. The link between poverty and frustration was acknowledged. Comments were made such as "unfortunately I agree with that", "I know it's not P.C." (politically correct) and "hmmmm, tricky", and "often puzzled over, isn't it". Some felt that smacking had nothing to do with social conditions and acknowledged that there were also many of the poor and uneducated who were not smacking.

In hindsight, Statement 15, "Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men" contains too many variables, but it was disagreed with more strongly by F1, "a smack is more than a smack". A few mothers dismissively commented that that was why they smacked, as well (out of frustration and anger rather than for disciplinary reasons).

Statement 21, "It's no wonder we have a violent society since there are so many angry and aggressive individuals in New Zealand" brought in the influence of alcohol and drug use on the smacking of children. That the mention of drugs and alcohol did not feature significantly in the focus groups and submission statements merits attention. Some responses to Statement 21 included "Yes, New Zealand is more violent. I think alcohol is a very big part of that. Alcohol, violence, and physical abuse. It doesn't help that's for sure", "Anger and frustration yes, but I think a lot of it has to do with drugs. And the recession. And people losing their jobs. And alcohol. Also no money, just the world we live in today", "It's getting worse though isn't it....Drugs fuel the violence which causes the abuse", and "Sections of New Zealand are very violent. Domestic and alcohol fuels violence absolutely. In my white nice middle class world no, I don't see violence on a day to day basis....There are a lot of angry and aggressive individuals".

Statement 23, "Motherhood is so hard, no wonder mothers sometimes 'lose it' and hit their children" and Statement 25, "Children who are beaten often become aggressive adults" were agreed with slightly more by those who held the F1 perspective that "a smack is more than a smack".

Statement 37, "I got smacked and it never did me any harm", one of the most frequently mentioned expressions during the debates in the weeks before the legislative change, showed a score of 0 by both factors. One participant commented "I got strapped and bruised and showed my mum, who I thought would be mortified. But my mum just went quiet. Something changed in me that day, I must have been about five, but I can remember it like it was yesterday". One young mother commented, "my mother still laughs about it but I never saw my parents the same after that (smacking) ... I was smacked because I couldn't find my hair ribbons". Five participants that said they could not comment on Statement 37. Another participant commented "how do you know?" and another, "I was smacked, but it was a bit more than a smacking". Three older mothers commented at this point that they did smack their children when they were young, although upon reflection feel guilt and regret. Only one said "it did me no harm whatsoever". Typical comments were "it was more than just a smack" and "if it's just a smack". One 65-year-old, when talking about her parents, said her dad was severely beaten. When he commented that "it didn't do me any harm" his wife said, "yes it did, you've had all the confidence knocked out of you". His immediate response was "I'm not in jail, am I?" This statement was frequently followed up with comments such as "well, it was more than a smacking and it bloody well did hurt".

Only four comments were made with Statement 41, "Not all smacking leads to abuse, but abuse all too frequently starts with smacking". Mostly participants were not sure, with the exception of a comment from one woman, "having been in the courts this is all too true". She had worked as a counsellor in the court system. Statement 43 was agreed with by both factors on the factor array with a +1. There were no comments on this statement.

Agreement and Disagreement

A strong theme that emerged through the analysis of the results acknowledges the link between one's behaviour and one's feelings. Of particular note is the response from the participants on two statements that referred to anger, frustration, or stress. Statement 5, "We are more likely to smack a child if we're feeling angry, frustrated or tired" (3, 3), rated as strongly agree by both factors and was only surpassed by the statements of principle mentioned previously. Due to the particularly lengthy response from the first two participants on this statement, a question was added to the interview beginning with the third participant, "is it okay to be angry with or in front of your children?", which the first half of the participants were asked as they participated in the semi-structured interview. Responses to this issue received significantly more comments than any of the other statements combined. It is noted that the focus groups also had a strong response to these issues, and unmistakably the link between anger, frustration and stress resonated with many participants when discussing child discipline. The implications of this will be discussed in Chapter 8.

Statement 32, "We have a responsibility to protect children from parents who cannot control their temper" (3, 3) was also strongly agreed with by both factors. It drew such responses as "not our responsibility, CYF's responsibility", "that's why we have laws, like the repeal of section 59", "agree, but how?", "we do as a community", "we have a responsibility to educate the parents" and "temper is an interesting word…thoughts of horrendous abuse like the girl on the clothesline recently in the news – that wasn't temper, it was rage".

Strongly disagreed with by both perspectives were Statements 9, "Children should learn to obey without question" (-3, -4) and (16), "Children best learn right from wrong through the use of physical punishment" (-4, -4). Both factors registered a response to "sparing the rod" statements, and it is possible the power of such statements is underestimated. It is not clear why the following statement has strong cultural resonance, but both factors responded to Statement 24, "I follow the spare the rod, spoil the child thinking" (-2, -3). This statement elicited such comments as: "this irritates me. I have a strong reaction to this one. There's a justification because of a Biblical connection", "I don't think that's how kids get spoiled", "an eye for an eye doesn't work", and "the whole rod thing has been misunderstood, it was for the shepherds to keep the sheep from going over the edge". In hindsight, it would have been useful to explore the influence of fundamentalist religious beliefs on the smacking debates further, although it is noted that although religion seemed a major motivation for outspoken commentary in the smacking debates, it was rarely mentioned in the focus groups. A further notion worthy of possible research in the future is the extent to which common metaphors – often borrowed from religious teaching in the form of well-worn phrases and common expressions – have an influence on our perceptions of what is or is not appropriate behaviour or socialisation.

Finally, of note for this section is Statement 18, "Many parents want to use alternatives to physical discipline" (2, 3). Both prototypes, regardless of the rest of their views, indicated they would like to have more disciplinary tools to work with.

Analysis Issues

As discussed in the previous chapter, the participants in the present study were mothers with children of any age and raised (socialised) in New Zealand. An initial pilot focus group was followed by five focus groups, and five trial Q-sorts were followed by 48 Q-sorts, the first half with semi-structured interviews and the second half two years later with the Q-sort only. The first group of participants took approximately one and a half to two hours to complete the card sorting and the interviews, and the second grouping took approximately forty five minutes to one and a half hours with just the Q-sorts. There was, however, one exception to this time frame. One participant from the first group took significantly less time to complete her Q-sort. This mother approached the attitude and belief statement cards with a more definitive approach than any of the other participants, and it took her less than 30 minutes to place the cards from those statements she agreed with to those she disagreed with. Whereas most participants from the first group deliberated and thought aloud (as they were invited to do) about why a particular attitude or belief had priority over another, and took considerable time deciding, pondering and shifting the statement cards to ensure the final placement best represented their position on the issue, this participant did not feel a need to shift any of the statement cards around on the score board once she placed them. Her Q-sort was included in the analysis because it is believed the data represented her attitudes and beliefs about smacking. However, although she was an advocate for smacking, in the final analysis, she was the only participant whose results did not differentiate much on how closely she associated with both social perspectives, and could have gone either way.

In contrast to this experience, another participant's data was not included in the final analysis. Also from the first group, this participant found it difficult to commit any of the attitude and belief statements on the score board at all, and was quite dismissive of the overall process and in fact, the issue itself. She seemed uncomfortable with the topic and it was evident that she did not enjoy the process. This mother of grown children did frequently smack her children when they were young, although commented that knowing what she knows now, she would not do so. When asked, as all participants were at the end, "would you like to make any final adjustments or changes or do you feel this best represents your beliefs and attitudes on the issue?", she said it was impossible to rank attitudes and beliefs at all and that she did not think it represented her. Towards the end of the card sort she was still moving statement cards from one extreme position to the other and was admittedly quite indecisive. Her data was not included in the final analyses because she did not feel her final card sort represented her attitudes and beliefs on the issue at all, and expressed a preference for it to be withdrawn.

Another respondent came into the Q-sort adamantly open that she was in favour of smacking, yet while sorting the statement cards realised that was not true. She spoke of smacking her three children when they were young and how guilty she feels about it. For her, this was quite an awareness exercise. During the focus groups, Q-sorts or interviews the participants were not asked if they smacked their children at any time, yet during the process of the Q-sort many participants disclosed their position on the issue. Five participants said they felt guilty after smacking their children and

offered such comments as: "I started smacking once and couldn't stop, then went on the other side of the door and cried. Not long after she was in the bath and I slapped her across the back of the head in the bath. Soon after that I went to counselling. If I hadn't done that who knows how I would be"; "I did hit X with five hard smacks on her bottom. It left a mark. I still feel guilty even today. I was frustrated. And angry. Didn't know what else to do".

Other participants commented on how difficult it was to choose and also deliberated over the ranking of the attitude and belief statements, however, upon completion, were satisfied that it represented them. This is not unusual in a forced distribution model (Watts & Stenner, 2005). That the participants were forced to choose is part of what contributes to this method being such a useful process. The participants frequently finished a focus group or Q-sort with a spontaneous positive response, with comments about how they enjoyed the process and would be quite interested in the findings. No participant was involved in more than on aspect of the research. It is relevant to note that the first grouping of participants involved with the Q-sort were invited to add any attitudes they thought needed to be included with the statements at the start of the semi-structured interview, although no one did. When participants were specifically invited in the focus groups to discuss what might lie beneath the debates around the Crimes (Substituted section 59) Amendment Act 2007, invariably the discussion would immediately move towards whether or not it was acceptable to use physical discipline. A colleague who is a tutor for a media course at Massey University expressed a similar experience during one of her classes. While the emphasis was on the media's role in the coverage of the smacking debates, the media students immediately leaped in to a heated debate on the smacking issue itself. Even with persistent focus, the tutor commented on what a challenge it was to keep the attention on the matter at hand, the media, rather than on the smacking debate (Personal Communication, 2009). Possibilities for this response are also elaborated on in Chapter 8. It became clear that to try to elicit attitudes and beliefs underlying a controversial topic was very difficult to do without discussing the controversial issue itself. In spite of encouraging the conversation to focus on what lies beneath the debate, the debate itself is where the conversations often led. Another item to note is that during the Q-sorts and interviews, those

participants who were against smacking felt much more strongly about the issue generally – and were much more vocal and opinionated – than those who were either for smacking or in the middle. Lastly, it was noted that several mothers with grown children who did smack their children when they were younger, now regret it.

The criteria to be a participant in the present study did not consider or compare demographics. The only two criteria to be a participant for this study were to be a mother and to have lived in New Zealand since the age of 5. Further exploration of demographics might be useful and was considered during the planning phase, however it was determined that was not within the scope or aims of the present study. Participants were not asked if they were beneficiaries or beneficiaries at the time they were raising their children. The release of *The White Paper* in New Zealand by the MSD in 2012 highlights the need to identify the most vulnerable children to abuse and identifies poverty, drug and alcohol abuse, and mental health issues amongst the factors that contribute to children at risk. The overlap of *The White Paper*, with its focus on abuse, may or may not be seen as relevant for physical discipline, depending on which perspective one holds.

Finally, it should be noted that there were no significant changes in the analysis of the data between the first grouping of participants and the second grouping. As a result, the combined factor array was used for the current analysis.

Summary

The systematic process of going through each factor and the consideration of what the factor array represents for each factor, with the disparity, agreement, disagreement, and null scores, seem similar to putting together a jigsaw puzzle when you do not have an idea of the image you are working with. The process of trying various pieces to make sense of what is before you only becomes clear as you progress your way through. As more and more pieces fit towards the end, only when stepping back to have a look, is it clear that an image has formed.

One of the valuable attributes of the exploratory nature of Q is that the researcher can focus not only on high-value statements but also some of the weak variables, and

coupled with statements from the post-sort interviews the factors may be carefully considered. Q methodology points to areas where further research could be conducted, such as the relationship between poverty and parenting, and/or stress and parenting. Although research has been done with respect to poverty and child abuse, more is needed to specifically explore the correlation of the physical discipline of children and parenting. Likewise, the relationship between frustration, anger and physical discipline needs further examination.

Through the analysis of the findings, it became clear that those who held the social perspective that "a smack is more than a smack" (F1), were more concerned about the rights of the child, viewed smacking as unacceptable (even if they agreed it works), and were more inclined to associate a smack within a broader social context. This factor considers that how one views and relates to children may be indicative of something more besides how a child is responded to with (perceived) misbehaviour. The second social perspective that emerged is "a smack is nothing more than a smack" (F2) seemed to grapple more with the various nuances included in the statements and in the debates. The mothers who hold this view are more likely to consider that there are certain circumstances when it is acceptable for a parent to smack a child are also more likely to think that sometimes children cannot be reasoned with. Those who hold this perspective made a clear distinction between smacking and abuse, and less likely to relate physical discipline with violence in society, although there are suggestions that New Zealand parents struggle with determining what reasonable force is.

In hindsight, that it was so easy to find participants for the current study during a time of highly contentious debates within New Zealand might have been a clue to the second social perspective, for those who identified with smacking as an acceptable disciplinary tool did not feel embarrassed, ashamed or apologetic with their smacking viewpoints because from their perspective, smacking is not abuse and is not viewed as harmful. In fact, many in this perspective consider those who do think smacking is harmful as being a bit out of touch with the real world.

183

This chapter presents the findings from the Q analysis that includes a combination of statistical and qualitative data. What makes Q-methodology findings distinct is that the method focuses on establishing patterns within and across individuals rather than patterns across individual traits such as gender, age, class, etc. (Barry & Proops, 1999). The social perspectives held by a cohort of mothers in New Zealand on what underlies the smacking debate provide insight into the controversy over the smacking debates. Attitudes and beliefs with the greatest disparities, agreement, disagreement and consensus were examined, and issues that emerged through the viewpoints were presented. Areas that emerged included child and parental rights, how children are viewed and the relationship between a mother and a child, the role of society, context and religious reasons, and finally, that other factors such as poverty or lack of education might affect how one disciplines a child. Of particular note is the possible influence of anger, frustration and stress on child discipline. Since a great benefit of Q-methodology is that the findings reflect the viewpoints derived from the population under study, the perspectives that emerged in the analysis of the data reflected the everyday conversations and comments (Brown, 1993) about the issue of the physical discipline of children.

Consideration of the literature to date in light of the findings from the analysis will be delineated in the following chapter with a critical discussion, and will include the implications of the findings.

CHAPTER 8 - DISCUSSION

The challenge of ending child abuse is the challenge of breaking the link between adults' problems and children's pain. (UNICEF, 2003, p.i)

Introduction

This is an abductive study that seeks to further understand the social perspectives of a cohort of mothers in Aotearoa New Zealand on the physical discipline of children through wider issues such as parental styles, bioecological frameworks, violence and socialisation of children. A substantial field of literature that is related to child maltreatment and the physical discipline of children are provided in order to provide a multi-disciplinary context for the social perspectives from the Q sorts to be read against. It sets out five aims to approach this issue both through reviews of existing literature and through field work. This thesis begins with the definitional issues raised in Chapter 2. The issue of physical discipline is contextualised in and through the legislative debates surrounding the Crimes (Substituted section 59) Amendment Act 2007 in New Zealand in Chapter 3. Chapter 4 outlines conceptual frameworks through which issues of child socialisation and discipline are commonly explained in order to frame the previous legislative discussion through different perspectives, and then develops the argument for the importance of socialisation, human rights legislation, and the principle of primum non nocere – to do no harm. Chapter 5, the fourth and final review piece, examines the issue of physical discipline and its potential impact on children and their socialisation.

This discussion chapter brings together issues identified in the literature reviews and reads these against the findings from the Q study. The broad overview of the literature in the early chapters set the scene for the fieldwork and focus on the research question itself, and provides a foundation to further discuss the identified social perspectives that emerged on the issue of child discipline held by a cohort of mothers in Aotearoa New Zealand. The insights from the review work have been emergent as the work progressed, and address the central and outstanding question about what informs the social perspectives identified through the fieldwork, and what can be inferred from these perspectives to explain the sharp divide amongst New Zealand mothers about the use of smacking as a disciplinary tool.

Definitional Issues

That so little research appears to have been undertaken specifically on the role, purpose and impact of light physical discipline for children is astounding. Statutory and non-statutory definitions in human rights legislation at both international and national levels are being made with inconsistent assumptions. Interpretations of physical discipline and related terms in the literature include an implicit range of force with reference to smacking, physical discipline, physical punishment and corporal punishment. Evidence of these kinds of ill-defined assumptions about physical discipline that seep into everyday talk and media representations in New Zealand were evident in the focus groups, Q-concourse, and post Q-sort interviews. No-one seems confident about what physical discipline comprises. Although it was emphasised with the participants that the Q study was on the physical discipline of children, the range of suppositions about what that means was implausibly wide. Maybe it includes whether a smack is delivered by the palm of the hand or an implement, is on the buttocks or near the face, is unduly (undefined) severe, administered too frequently, or on too young or too old a child, is delivered in anger or frustration, or for too long, or too soon after in relation to the punishable offence. To complicate the definitional issues further, studies on physical discipline and child abuse may not distinguish, define, include, or exclude physical punishment at all. Research that is frequently unhelpful fails both to clarify the grey area between physical discipline and child abuse and to define assumptions about what is acceptable, and includes within their scope those children who may have been smacked lightly once a year with those who were beaten harshly once or more often a day.

It was only in the 1980s that family violence, violence against women, and child abuse entered our vocabulary as such, and it was as part of that social paradigm shift that Straus, Gelles, and Steinmetz (1980) suggested that people who hit one another in their own families might be abusive. Understandings of what family violence comprises and questions of ownership between husbands and wives has changed significantly. Are the discourses on the physical punishment of children shifting as well? According to Reid (2006), the changes in definitions, legislation, and the growth of international human rights treaties, have effected a discursive shift from smacking as something, once considered personal and not the business of government, to a social responsibility. While the sharp divide in opinions about physical discipline may derive from different philosophical stances at the individual parent level, the divisive claims may be amplified when the debaters lack access to any clear definitions.

Now that the International Human Rights Committee has defined a smack as violent (over religious and cultural beliefs that often maintain the contrary), a definitional precedent is set for human rights and international legislation and the role of regulatory authorities comes to the fore.

The Role of Government and Social Responsibility

Until recently, individuals and individual countries were left to determine, debate, and resolve issues around physical discipline. Loose guidelines on how to interpret international human rights legislation allowed for sensitivity to cultural and religious differences as well as various definitions and interpretations. However, this is no longer the case. There is now widespread acceptance on individual, social, national and international levels that what was once considered a private family matter is now a social responsibility and a government matter when there is a possibility of abuse or violence. The fieldwork that identified the social perspective that "a smack is nothing more than a smack" also identified a reaction to the suggestion that the government needs to get involved in the physical discipline issue and pointed to resentment of any indication of a "nanny state" (Statements 20 and 28). However, this perspective also identified that the reason government is involved at all is because some people have not been able to determine reasonable force (Statement 36).

Historically, privacy of the family has a strong precedent in Roman law that assured the authority of the "pater familias" or the responsible head of household in ancient Rome. The laws and traditions of ancient Rome ensured that heads of household held power over the wives, children, siblings and slaves in their domain. However, it is not only ancient Rome that held such beliefs. In modern usage privacy, power, social responsibility and moral accountability are also linked and the concept of "my home is my castle" is often invoked in relation to intrusions into privacy that are seen as a betrayal of human rights.

In a 2008 New Zealand survey more than 70% of participants held the attitude that it was no one else's business how a parent treats a child, partner or elderly parent (McLaren, 2010). The role of government in the everyday lives of people is challenged across many issues unrelated to smacking or abuse. For example, Joe Bennett, a well-known columnist and travel writer in New Zealand, was interviewed on 4 December 2011 on Radio New Zealand National about the earthquakes in Christchurch that were catastrophic for the community. When asked about any damage done to his house during the February earthquake, Bennett (2011) complained about the government's role, as he was told he could not go back to his own house as it had been designated with a red sticker (which means it was deemed unsafe and may not be entered). He and many others felt they should be able to make their own decisions about whether or not they return to their homes. The responsibility of the government to assess risk and subsequently provide guidance for citizens is a contentious issue.

Changes in legislation on national and international levels reflect a growing human rights movement, and legislative debates are now commonplace and complex in the area of the physical disciplining of children. Theories range from the possibility that legislative reform plays a role in altering attitudes and behaviours (Durrant, 1999; Durrant & Rose-Krasnor, 1995; Knox, 2010; Ziegert, 1983) to the possibility that "acts of legislation come out of the mores" (Sumner, 1940, p. 40). However, social mores do not necessarily match up exactly with legislation (Smith, 2003). Regardless of which comes first, the legislation or the shift in attitudes and beliefs, a link between the two is evident. Several historical changes in definitions and conceptual frameworks of violence include the move from definitions of violence that now include nonphysical as well as physical acts.

Examples of such changes include that it is no longer acceptable for a man to hit his wife, the use of corporal punishment in schools is no longer permitted in many countries, and for a growing number of countries the harsher forms of physical

discipline of children are no longer allowed. Such attitudinal shifts are reflected in the first of the four principles of CRC, which includes the best interests of the child. Parallel to CRC is the definition of WHO (1999) for child maltreatment that includes the potential harm of a child's mental, moral or social "development or dignity in the context of a relationship of responsibility, trust or power" (WHO, 1999, p.15). That the inclusion of such areas for a child is now included in definitions of child maltreatment indicate a growing awareness that the debate has moved well beyond the definition of a smack. References to neglect are also fairly new in the literature for children as well as for the elderly and are now considered in definitions of abusive behaviour. The broadening of what violence comprises demonstrates an understanding that the way a child is related to is manifest in the way they are treated. This is not new. It reinforces, however, the claims making on both sides of the smacking divide. Those who believe a "smack is more than a smack" now have international law on their side. Those for whom a "smack is nothing more than a smack" resort back to claims about the inappropriate intervention of government in the lives of private citizens.

However, to consider parental style, how children are viewed, context and how all that might influence a child's development, and how he or she relates as an adult, is a fairly new focus, particularly with respect to light physical discipline. The socialisation of the child also informs the social perspectives identified.

Socialisation

Complex family and environmental influences through social norms, laws, historical events, cultural beliefs, attitudes and ideologies as well as the more immediate surroundings of a child, such as neighbourhoods, religious groups, school and the family, all play their part in the socialisation of a child. While the approach to the literature in Chapter 4 includes theories or theorists that acknowledge the individual, interpersonal and social are not only related but also have an effect on each other to further understand the strong response to the issues that surround the physical discipline of children, it is the bio-ecological framework and the attachment theory that provide robust research to facilitate the discussion for the current thesis. Fanon, the Cultural Spillover Theory, and the Violent Matrix, although closely related to the

research aim to further understand any potential link between child discipline and violence through the individual and the individual in relationship, do not provide substantial evidence based research that validates their inclusion.

That the early years of socialisation have such a significant impact on how a child relates with others, and that positive and secure attachments are quite critical to a child's formation with respect to healthy relationships, how parents relate to their children is a reasonable conversation to have. The Brown Report (2001) commissioned by the MSD in New Zealand places emphasis on the relationship between the parents and child and notes that the parenting style applied is critical. Whether a parent applies a punitive, positive, or conscious parental style (albeit with overlap) influences not only the relationship of that child with the parent, but how that child views him or herself from a very young age in the socialisation process.

The bio-ecological model holds that the healthy development of an infant at the ontogenic level (the individual or intrapersonal level) links with healthy intrapersonal and interpersonal relationships in adulthood. The influence of Vygotsky (1978) on the development of the bio-ecological theory emphasises that child development through socialisation occurs not only through culture, as mentioned above, but through interpersonal relationships and communication. Vygotsky maintains that children come to know their world through social interactions, culture, and relationships, and internalise their life experiences of the world. Bowlby's (1982) addition to Vygotsky's work introduced the concept of the attachment theory, which suggests the development of a parenting style stems from early childhood experiences that are critical for the healthy development of an individual.

What the development of these theories introduces is that the internal working model a child establishes in childhood is carried to that child's own parenting. The internalised responses and values developed during childhood manifest in adults through behaviours and family dynamics. It follows, then, that how a child is related to during formational years includes not only how they are disciplined but how they are viewed. At one time, children were expected to obey without question, but this

190

too has changed. The mothers in the present study generally agreed that children should be allowed to disagree with their parents, with qualifying comments such as "well, it depends on how it's done" and "to a degree". Whether or not a child is allowed to disagree with a parent and how that manifests in the relationship indicates a parenting style. The fieldwork perspectives indicated that the decision about whether smacking is acceptable as a disciplinary tool is often made before the child even does anything at all (Statement 2). Mothers who held the perspective "a smack is more than a smack", strongly disagreed that sometimes smacking was necessary since it is not possible to reason with a child or that issues of authority are involved (Statements 26, 33 and 34). Traditional child rearing practices often indicate how one views the children and the parenting role, with more recent research indicating that the more egalitarian the relationship, the less violent the relationship (Karakurt & Cumbie, 2012). Such viewpoints are reflected in parental styles.

In summary, linked with the parental style, how a child is related to and how they are viewed, is how a child's misbehaviour (perceived or otherwise) is viewed. Whether a child's behaviour is viewed as disobedience or as normal developmental behaviour is highly likely to affect the disciplinary measures applied to a child, and oftentimes whether or not a child is smacked (Jackson & Dickinson, 2009). Education programmes such as SKIP in New Zealand make a significant contribution by working with parents to help them identify disciplinary measures able to be chosen by parents, and part of the programmes normally includes education about the age-appropriate behaviours of young children. Particular parental styles signify different ways that parents relate to their children, and how children are viewed is then reflected in the way children are disciplined. When physical discipline is used, it also be relevant to consider what possible harm may be caused.

Mothers who view smacking as assault are compelled to find other methods of guidance, and view that their relationship with their child is affected by how they discipline. A punitive parental style is indicated where smacking is used frequently on children too young to possibly understand the lesson (Gershoff, 2002a). The Ritchies maintain that New Zealand parents are more inclined towards employing a punitive parenting style for the discipline of children, such as smacking and

shouting, and stress that there is a need to make further distinctions between discipline and punishment. They found that attitudes towards child discipline are growing less punitive (Ritchie, 2002). Traditionally, New Zealand has high incarceration rates (Cohen, 2011; Pink, 2005). According to David Cohen, high incarceration rates indicate a highly punitive society. Cohen, during an interview on National Radio (2011) about his book entitled *Little Criminals: The Story of a New Zealand Boy's Home*, states:

Make no mistake; New Zealand has always been one of the world's most retributive societies. This is the society where we flogged homosexuals until relatively recently; we reintroduced the death penalty in the '50s so we could string a teenage killer up. You know, even recently a relatively modest proposal to remove the defence of reasonable force from people accused of thrashing children was objected to by more than 9 out of 10 people in this country.

Cohen's suggestion of the link between New Zealand being a punitive society and the response to the legislative change on the physical punishment of children bears noting. Cohen is not alone is his view that New Zealand is a punitive society. Dr. Nessa Lynch (2012), Senior Lecturer in the School of Law at Victoria University in Wellington, maintains that New Zealand is well-known in the international criminology community for its punitive adult criminal justice system (which is in direct contrast to how the youth justice system works with a non-punitive approach). Lynch also maintains that one of the indicators is that high incarceration rates indicate a punitive society, and New Zealand has high incarceration rates. It is not within the scope of the current study to debate whether or not New Zealand is a punitive society; however, if it is, the bio-ecological model suggests that it is likely that parenting behaviours would tend to be as well. It is acknowledged that family violence is a social issue that occurs in interpersonal relationships, and the relationship between a mother and her child(ren) and how that manifests within a parental style for disciplinary purposes, is at the core of an ecological perspective. The field participant's engagement with the Q study highlighted a number of areas that need further examination, and this is certainly one of those areas. The overall

inference from what has emerged in relation to discussions about socialisation is that there is much more that needs to be untangled here.

In *Socialising Children*, James (2013) suggests that the concept of socialisation has shifted from "being concerned with the ways in which 'society', in all its diversity, is reproduced and/or changed, to a much more individualised and narrow focus on explaining and changing people's social conduct" (p. 5). Furthermore, she is adamant that understanding "*how*, rather than just *what*, children learn about the social world should once more become a critical field of social inquiry" (p. 5) and that understanding the agency of the child in the socialisation process is also critical. What the current study has reinforced is that we know very little about how children are socialised (in James' wider political sense) in New Zealand, nor about the role that physical discipline plays in any socialising processes. We also know very little about child agency in the smacking debates although some of the mothers in the field study reported insightful comments from their children when they received physical discipline.

In this section I briefly examine six aspects of socialisation that have emerged through the reviews and field work and consider the implications of these views for the discipline debates.

First, is the idea that behaviours – both positive and negative - are embedded in the ways families relate. Straus (2000) has long maintained that even a light smack was indicative of a larger pattern of aggression embedded into a way that a family relates. One of the points of agreement in the overall meta-analyses of the literature on the physical discipline of children is that frequent and/or severe punishment signals a problem in family dynamics and has negative outcomes. In Sweden the way parents relate to their children, from a more punitive parenting style to a more positive parenting style, has shifted, but this did not happen overnight. There is some evidence that a shift may also be underway in New Zealand, but the Q study revealed that the evidence is divided between those who see a "smack is nothing more than a smack" to those for whom "a smack is more than a smack".

Second, socialisation is context bound and therefore physical discipline will also occur in very context-dependent situations. Regardless of one's social perspective or position on the issue of physical discipline, one of the few areas that all sides of the smacking debates agreed upon was that context is critical (see Chapter 5). Analysis of the literature to date indicates that the outcomes and effectiveness of smacking are based on contextual issues such as cultural, social and religious mores, whether the smack is developmentally and age-appropriate, the frequency of smacking, and what, if any, other disciplinary measures are employed. However, despite a general acknowledgement that all of these issues are critical to consider in relation to physical discipline, the salient context of the relationship between the child and the mother is seldom noted as primary.

Third, is the view that a primary goal of socialisation is to encourage children to behave appropriately as adults and therefore entails modelling of appropriate behaviours. The fact that smacking is still a common child rearing practice challenges this assumption.

However, and this is a fourth point, parental beliefs about cultural and religious values and teachings will influence parent's ideas about what kind of modelling is appropriate. Hence, beliefs in "sparing the rod to spoil the child" will encourage divided attitudes between those who endorse such views and those who do not. The post Q-sort interviews reflected a range of internalised values – often coupled to sayings – that revealed alternative viewpoints.

Fifth, socialisation arguments extend to parenting styles – that is whether parents adopt punitive or positive stances toward the discipline of their children. This study has identified a divided response insofar as smacking is seen as acceptable (when it is most often associated implicitly with punitive approaches) or not (when the association is with positive disciplinary approaches and smacking is eschewed). Whether punitive or positive, the parental style affects how a child learns to relate to the world, and how to function in relationships and handle frustration, anger and stress. The sixth point to emerge is that there is a great deal of uncertainty on the part of parents and caregivers about how to relate to self and others when one is frustrated, angry or stressed. It follows that child discipline and guidance are often not the primary reason for the smack. Although parental stress contributes to harsher disciplinary actions (Baumrind, 1997), the reality acknowledged by mothers in the present study is that frustration or anger is often a primary trigger for smacking itself. As mentioned, it is not a revelation that there is a link between adult's problems (the intrapersonal level) with child abuse (the interpersonal level), or that child abuse is more likely if there are other manifestations of violence in the family. However, remarkably absent in the literature is any link between light physical discipline and frustration, anger and aggression, although nearly every participant agreed that smacking might relate to issues other than the aim to discipline the child. The consideration of how children are socialised, and what they are taught by deeply embedded cultural attitudes and beliefs challenge assumptions about discipline and what is taught by how one is disciplined. It is recognised that children who come from a loving and supportive environment, where other disciplinary measures are employed, appear to have less measurable negative effects from physical discipline. The growing realization that the relationship a child has with his/her parent or caregiver, and the parenting style applied, contributes greatly to the socialisation process of a child, and the context in which the smacking takes place directly and indirectly points to that relationship. It is generally agreed that cultural, social and religious mores heavily influence how smacking is experienced and understood by a child. Therefore, the relationship of the child with the parent/caregiver, what else is happening in the family, and whether there is warmth or how much anger and frustration the child lives with must also be considered. The socialisation of a child and how a smack is experienced and internalised by the child is not only relevant, it is fundamental. There is a wide range of cultural understandings, from religious views to the type of relationship a parent or caregiver has with his or her child. The debates about the physical discipline of children open up a plethora of important issues which have broad implications for how rights, children and parenting are understood (Dobbs, 2005).

Human Rights Legislation

If the aim of human rights is not only an effort to stop violent behaviour, but also to initiate a better way for people to relate, then more transparency may improve what some perceive as interference from a nanny state. The intention of the WHO definition for the respect, integrity, and well-being of individuals is generally not well emphasised. The concluding paragraph in the submission to the United Nations Secretary General's Study on violence against children in 2006 highlights that when a society respects children's full human rights, it is then that there will be a significant reduction of violence (Pinheiro, 2006).

Historically, children were viewed as property, as "chattels to assist a family to break in and work the land" (Reid, 2006, p.59), and concerns for children up to the age of 18 date back as far as 1924 when the League of Nations adopted the Geneva Declaration of the Rights of the Child and claimed a child's rights to be fed, to be cared for when sick, to shelter, and to protection from exploitation. According to Reid (2006), before 1945 children were viewed mostly in terms of economic rather than emotional or educational value. In addition, although not within the scope of the current study, the complexity of forms of social organisation with traditional Maori society also contributed to understandings of the role of children within families, and how they were viewed and treated. Such a view contributes the understanding for the need to distinguish children's rights from human rights, with a particular view of children that holds children need their own legislation in order to protect them. The evolving human rights movement and the first legally binding international human rights treaty, CRC, goes so far as to suggest that the well-being of children is a right (UNICEF, 2009), and the physical discipline of children, however light, affects the well-being of children and is no longer acceptable.

According to Weiss and Freedman (2005) human rights laws are fundamentally humanitarian laws. If Pinheiro and Weiss and Freedman are right, Bowlby's (1982) emphasis that the quality of attachment is critical to future relationships and a child's self-esteem supports that view. The misconstrual of the legislative approach (as a nanny state rather than a socially transformative tool) is unhelpful. Active engagement of schools and communities may be a possible path to shift these perceptions. The final area that contributes to the sharp divide amongst mothers about the use of smacking as a disciplinary tool as identified through the social perspectives is what possible harm smacking might have for a child. It is well established in the literature that physical abuse is harmful for the socialisation of a child, but what about physical discipline?

Primum Non Nocere

Traditionally related to medicine with the Hippocratic Oath, primum non nocere, the Latin phrase that means, first, do no harm, has stood the test of time. One of the most often quoted phrases in the smacking debates was "I got smacked and it never did me any harm" (37). According to Miller (1990), it is not unusual for an adult to make light of having been smacked when they were young, even to joke about it. She suggests such phrases as "it didn't do me any harm" are so familiar they are hardly noticed, yet if explored further reveal discrepancies in how it was experienced. Miller also maintains that we have a deeply embedded need to romanticise and idealise the parent-child relationship and that the harm of smacking has been tragically underestimated. If smacking is on a continuum of violence, there may be the assumption that there is also a continuum of harm, and there is much that may be learned from the existing literature on child abuse. With the distinction between a smack and a hit a tenuous one, the possibility that smacking has more of an effect on a child than previously recognised is emerging in the literature. There are few studies that examine violence, whether witnessed or experienced, from the child's perspective, and only fairly recently has research examined the response of children with regards to physical discipline and how they view the experience (Carroll-Lind, 2006).

Caroll-Lind's research (2006) makes a significant contribution with her work on children in New Zealand and how they experienced physical discipline. Children in her study reported that they often did not know what the smack was for, that it was scary to see their parent so angry with them, and that it hurt more than their mother thought it did. Reportedly their sense of safety in the world was affected. That so many children found it frightening to see their parents so angry with them is a particularly salient point.

Although it is not possible to assess the level of harm from a smack in the present study, mentioned in the Findings Chapter was a participant's comment, relating to her father stating that beatings by his father did him no harm. This is worth revisiting here. The man's wife responded, in this instance, saying "yes, it did, you've had the confidence knocked out of you". While he did not disagree, his response "I'm not in jail, am I", implies a measure of the effect that smacking did have. Current Human Rights legislation such as Article 19 of CRC emphasises the rights of children to dignity, and maintain that zero tolerance of physical discipline is necessary not so much because it is seen to be on the continuum of violence, but because of the impact that a punitive parental style may have on a child.

The growing awareness of the effects of exposure to and witnessing violence on children and families is beginning to be understood (Osofsky & Osofsky, 2001), and what is not contested in the literature is that children who are exposed to violence at home often become violent adults. Research indicates that physical abuse affects the development of the part of the brain critical for self-awareness and the internal monitoring of behaviours, and increases anger, hostility, depression and dissociation. Such a controversial concept has implications for cultural and religious viewpoints that endorse physical discipline. The viewpoint is also clearly embedded in the two social perspectives generated from the attitudes and beliefs of the cohort of mothers in New Zealand.

Education is a key component of a better relationship with a child. That mothers from both perspectives strongly agreed they would like to have more disciplinary tools to work with, indicates how smacking is often used not so much as a disciplinary measure than a reaction to a child's (perceived) misbehaviour. The effectiveness of the education programmes in New Zealand, such as SKIP, which teaches a parenting style referred to as conscious (rather than reactive) parenting, is particularly significant. When a parent has a better understanding of ageappropriate behaviours and various disciplinary tools for the toolbox, disciplinary measures often improve.

Neuroscientists are now able to prove that our body has a cellular memory and that this memory, conscious or unconscious, is brought from infancy into adulthood (Pert, 1997). The attitudes, beliefs and behaviours of the primary caregiver(s) and the extended network of social norms, cultural beliefs, and ideologies influence the development of living skills, so that the basics of an emotional life are formed, and according to Brazelton and Greenspan (2000), this is when a child's first experience of trust occurs. The first years of a child's life are critical for a child's development, and awareness about the influence of early development continues to expand in diverse disciplines.

The inference here is multi-layered but points to the idea that "doing no harm" may be a simple bottom line from which it may be possible to redefine the impact of "the smack".

Summary

Traditionally, little attention was given to the influence of parental attitudes and beliefs on a child who later may become a parent (Karen, 1994). It is argued here that conversations about the appropriateness of physical discipline of children need to shift from how harshly or how many smacks are delivered, where on the body a child is smacked and whether an implement was used, and the role of government and rights of parents, to the need to relate to children with respect and dignity, and how best to focus on the well-being and "best interests of the child" (CRC, Article 3). This chapter addressed the fifth aim of the current study, which is to find out what informs the social perspectives identified and what can be inferred from this to explain the sharp divide amongst mothers about the use of smacking as a disciplinary tool.

Two main summary points emerge. First, whatever is understood and assumed about the nature of violence greatly contributes to the tensions around the smacking debates. Not only are there no agreed definitions but there are also no shared assumptions, and this must be addressed. Any understandings about whether or not the physical discipline of children is harmful critically require clarification in the terms of the discussion. Debates begin from preconceived assumptions and even before the debate begins there are very different understandings about what is being discussed. If the debate is to be about the effects of light physical discipline in the context of child rearing practices, then that is a very different debate from one centred on child abuse. Research based on very clearly defined terms is needed in this space.

Second, and this follows from the first, further consideration on how a light smack may (or may not) impact on relationships with children, what it teaches, and what this indicates about how we relate needs to be examined. The socialisation of children influences how children learn to relate as adults. Most of the literature to date begins with the assumption that smacking is either violent or on the continuum of violence, or is not violent, and so a clear way forward is unmanageable. Further understandings on the critical issue of the physical discipline of children remains controversial in many parts of the world as the impact of changing legislation and the growing human rights movement are grappled with.

CHAPTER 9 - CONCLUSIONS AND RECOMMENDATIONS

All living creatures know what to do with their young—except the parents of today. We parents and teachers must first build a new tradition if we are to live in a world of peaceful co-existence All have the mistaken belief that they can only find their place by being superior. The established traditions of raising and teaching children, which stemmed from an autocratic society, are no longer effective in a democratic setting. We have to learn new forms of dealing with each other because our relationships have changed. (Dreikurs et al., 2004, p. 7)

Introduction

The purpose of the present study was to answer the research question, "What are the social perspectives held by a cohort of mothers in New Zealand towards physical discipline, and what do they indicate?" In order to address this question both literature reviews and field work were undertaken. The reviews established context, outlined legislative debates, presented conceptual frameworks and examined physical discipline. Definitions, key national and international legislation, key theories and theorists that linked the intrapersonal to the interpersonal, were examined as a way to approach the research aims. The field work comprised a Qstudy of mothers (of any age) who were socialised in New Zealand since the age of 5. The social perspectives that emerged from the Q study were considered through the substantial literature that includes definitions, context and legislation, ecological perspectives, and the values and efficacy of physical discipline. The insights from the research were cumulative, partial and indicative of the need for further, more focused and carefully defined research. This chapter concludes the present study with a look at the research contribution, underlying assumptions, implications for policy and practice, strengths and limitations, and suggestions for further research.

Research Contribution

While it is hard to claim the contribution of research until evidence of its impact exists in publications and citations, it is possible to identify where such evidence might emerge. First, use of Q methodology is still not entirely common in New Zealand and any study, however flawed, adds to the developing understanding of the potential of this research approach. In this case, the exploratory nature of Q methodology and the application of abductive logic enabled the divisive social perspectives that still exist in New Zealand around the use of physical discipline to clearly emerge. The identification of this divided perspective opens the way for more useful engagement with the prevailing discourses on the physical discipline of children.

Second, the study's identification of and emphasis on ambiguous terminology and misleading assumptions, most of which became apparent in the literature reviews, identifies some of what has impeded the development of transparent discourse in this space, and so contributes to untangling some of the impasse that surrounds the physical discipline of children. If a clear definition of physical discipline can be agreed to include the disciplinary smack, then policies, interventions, and parental education can be shaped around that definition.

Third, the application of ecological frameworks and attachment theory to the physical discipline discussion highlights the links between child socialisation processes and parental styles. Exploring physical discipline through these more holistic frameworks makes it possible to see more clearly how child developmental stages, parenting skills, and age-appropriate disciplinary responses need to be disentangled from the anger and frustration experienced by parents that may have little relationship with the need for discipline of the child. These frameworks provide a lens through which to more fully explore the potential impact of physical discipline on parent/child relationships.

Finally, while this study focused on what is happening in Aotearoa New Zealand, much of what has happened here is relevant to other countries still grappling with their legislation. As of 2 December 2014, 43 states prohibit the use of "corporal punishment" in all settings. One hundred and five states still allow physical discipline in the home, and corporal punishment is still allowed in schools in over 70 states. Not only has this thesis pointed to relevant literature, it has surfaced the existence of divided views and encouraged the idea that definitional, legislative, and conceptual framings all need to be considered.

Underlying Assumptions

Two assumptions influenced the formation of the present study from the outset. Firstly, that parents generally want what is best for their children, and secondly (while the study was clearly focused on the issue of physical discipline, not on child abuse) this was always going to be difficult to establish because there were/are no clear definitions available. Attempts to justify smacking in the name of child discipline are also based on numerous, complex assumptions. There is the assumption that the context (whether religious, cultural or social) that surrounds a smack (a light blow on the buttocks or hand for disciplinary reasons) is within a conscious, positive mother-child relationship. Furthermore, it is assumed that the mother or parent/caregiver is able to determine what is "reasonable" force, that the smack is for a misbehaviour (rather than a developmentally age-appropriate behaviour), and that the child is in need of guidance (rather than punishment). What this thesis has highlighted is that acknowledging and addressing these assumptions,

from the outset of any attempt to introduce changed behaviours, actions, or policies, is critical.

Implications for Policy and Practice

Definitions and legislation that surround the issues on the physical discipline of children have direct implications for policy and practice and while it is not usual for a thesis to make explicit policy recommendations, in this case I make two. The rationale behind the recommendations is to further clarify the insights from the research and to highlight the need for further engagement with the issues.

It is recommended that parent education programmes such as SKIP continue to encourage age-appropriate disciplinary measures and positive parenting styles. The impact of such programmes contributes to conscious parenting styles for the discipline of children. Continuing to provide education programmes such as SKIP speaks directly to the apparent divided parent response on whether or not it is okay to smack a child. Those parents who already believe that it is not okay may feel vindicated by such a programme. Those parents who believe that it is okay will have access to much more information about the complicated way in which smacking may impact on their child.

It is also recommended that legislators and the relevant government departments carefully examine the influence, impact, and understanding of human rights

legislation. A clear understanding of definitions and interpretation of the law prove to be easier to implement if there is social understanding for the change within the wider community. A similar process such as the one Sweden followed when they implemented the ban on the physical discipline of children, with emphasis on education rather than legally imposing the social change, could be a good model to follow. Again, this speaks to the definitional confusion in relation to physical discipline that surfaced in both the literature reviews and in the Q study.

Strengths and Limitations

The issues surrounding the physical discipline of children are complex, and it is a challenge to ascertain how the findings of the current study might impact on the social discourses that continue on the smacking debates, nationally and internationally. The present study has its limitations and the findings should be viewed with these limitations in mind. Firstly, the study examined the attitudes and beliefs of a small group of mothers socialised in New Zealand, and effectively surfaced a very clear divide in the social perspectives on physical discipline. Q methodology, however, is designed to bring matters of consequence into view rather than produce generalisable findings across a given population. Therefore this study is preliminary in the sense that it sets the scene for future work.

One of the major limitations for this and many studies on violence relates to selfreporting. Studies on violence make a reality check difficult, particularly when the issue under study is questioning whether the act itself is even violent at all. Although the present study is on physical discipline, it is also likely that the way something is remembered and what actually happened, or the impact it has, may differ or not be known. The parents who participated in the Q-sorts were likely aware of the sensitivities around the smacking debate that were prominent at the time and there is no way to tell how this affected the way they sorted the statements. That one set of Q-sorts was elicited at a later time with no discernible effect on the results, however, suggests that Q methodology provided the researcher with a reliable tool for drawing out evidence of strongly divided opinions on this subject. A final limitation, in the broadest terms with respect to the complex issues of physical discipline and whether or not it is on the continuum of violence, appears because there is no existing paradigm to explain the discrepancies between those who experienced physical discipline in their own upbringing but do not then use physical discipline on their own children, or those who were severely affected by their own experiences and others who seem not to have been affected in any way. For those who do seem harmed, either the social or structural factors are blamed, or life's stresses such as poverty, alcoholism, or drug abuse. What the studies of violence have not yet reached is what the studies in epidemiology have recently done, acknowledged the link between the individual, familial, societal, and national levels and recognised that intrapersonal development – which includes parental styles and the way we relate – must be considered as part of the social and ecological impact in our societies. The interplay must be understood as incorporated, in a literal sense, into physical selves and relationships.

Further Research

Where society, in the largest sense, now stands on the issues of smacking and children's rights is a far cry from even recent historical understandings of family violence such as those that emerged in the 1960s, originally written by and for medical health professionals, with little reliable data and focused mostly on psychopathological models. It was during the 1970s, with the emergence of the women's movement, that awareness of partner abuse and what else constitutes family violence, grew. After more than 40 years of research, understanding and awareness of what is considered violence continues to evolve. In a highly globalised world, influenced by the legislative framings of the international agencies, these social changes are happening in all corners of the world and are comparative. At the point of the final revision of this thesis I was pointed to the work of Straus, Douglas, and Medeiros (2014), The Primordial Violence: Spanking Children, Psychological Development, Violence, and Crime. My work is confirmed with such recent studies. There are a number of recommendations from this research to advance knowledge with respect to intrapersonal and interpersonal links in the study of violence in this globally comparative context.

Another very significant research contribution would be to approach the question of the physical discipline of children through the lens of the social relations of power and gender. Although not the focus for the present study, some of the findings suggest that the way in which gender contributes to issues of conflict in interpersonal relationships needs further attention. For example, cultural and social constructions of both motherhood and fatherhood may be viewed through the sexual contract and the changing and in some ways unchanging dynamics that underpin the "ownership" that a man may have over his wife and his children. The power lens opens up the possibility for further research, particularly in the New Zealand context, of the impact of colonisation and the relative recent history of this experience for both, in Fanon's terms, the coloniser and the colonised.

Finally, an in-depth sociological contribution to this research field would include Bourdieu's understandings of the effects of violence through the social, structural or cultural aspects of violence rather than the intrapersonal and interpersonal, as the present study had done. Bourdieu acknowledged that the effects of violence extend far beyond the physical, and his theory of agency warrants a deeper analysis.

Summary

The ambiguity of the definitions, gaps in knowledge and entrenched attitudes and beliefs contribute to much of the literature representing the information on child discipline with cross purposes, rendering some of it unhelpful or at the very least, discredited. The two social perspectives that emerged through the factor analysis of the viewpoints of a cohort of mothers in Aotearoa New Zealand in this study, when considered with the current literature on the physical discipline of children, indicate that the relationship of the mother and child is paramount. Mothers who held the first perspective, "a smack is more than a smack", consider there are links between smacking, aggression, anger and violence, and that it is never acceptable to smack a child. The second social perspective that emerged is "a smack is nothing more than a smack". The mothers who held this perspective were more likely to view smacking as a useful disciplinary tool and made a clear distinction between smacking and abuse. The second factor is independent of the first factor, although certain viewpoints may be agreed with. The examination of what informs those social perspectives and what can be inferred from them is discussed through the conceptual frameworks of ecological models, the literature on definitions, physical discpline, context and legislation. These findings have significant implications for social policy and development both nationally and internationally.

Parents generally want the best for their children, whether poor or rich, educated or uneducated. Karen (1994) maintains that many parents suffer not from a lack of good intentions, rather an inability to overcome the obstacles from their own development:

Doing it right is, of course, a major concern....Millions of books on child care are consumed every year....But, as useful as this is, none of it will help parents do the one thing they most need to do - gain a deeper understanding of their own motivations, conflicts, and inner needs. In the self-help literature directed at parents virtually no attention is paid to the emotional upheavals that the parent is likely to face – the disturbing return of long festering feelings, the sense of being driven to behave in ways that one would rather not think about, the haunting sensation of being inhabited by the ghost of one's own mother or father as one tries to relate to one's child. (p. 378)

It is often the clarification of our thinking that moves us forward (Krieger, 2004). The contribution the present study provides to the existing literature is the identification of areas that underlie the tensions that surround the physical discipline of children, especially since those tensions are part of a much bigger picture. Given that recognition of the links between the individual and the interpersonal are already recognised, as indicated with the New Zealand Taskforce for Violence (2006), it follows that a paradigm shift is now occurring. The summary report from the Taskforce (2006) supports the view that family violence is a complex social issue, yet goes on to say that it "occurs in private and within close interpersonal relationships [emphasis added]" (p.33).

Concluding Remarks

I began this research with the desire to understand the strong emotional response to the change in legislation for the physical discipline of children. The complexities and implications of legislative change on culture at the grass roots level and the recognition of the contributions so many researchers have made to the literature on the physical discipline of children and related issues, led me to even further interest in the complex issues involved. Whether or not to smack no longer seems the question, and the links between the socialisation of children, smacking and violence no longer seem so far-reaching.

EPILOGUE

I still do not make any claims about the rightness or wrongness of smacking at the end of this thesis. Much to the criticism of some, I did not attempt to prove or disprove whether smacking is violent or on the continuum of violence. That was not the aim of this thesis, although many who read it will be disappointed about that. Given the multi-disciplinary approach to the issues, there will be those who will still see something else that this thesis needs to be "complete". The seemingly disparate multi-disciplinary approach (which in fact is one of its strengths) links the threads of literature and empirical data from the Q sorts with abductive logic to clarify the purpose of this thesis and its contribution to the literature. That much of the thesis necessarily includes violence and violence related issues provides the implicit and sometimes not so implicit belief that a light smack is violent or on the continuum of violence. Seen within a broader context, the light physical discipline of children has proved to be an aspect of our everyday lives that needs further research and consideration to be able to examine whether or not it is one of those areas referred to by Bourdieu in the quote in the Introductory Chapter of this thesis.

In particular, the theorists and theories in the Ecological Chapter need a comment — as frameworks that link the individual to the interpersonal relationship with respect to physical discipline are difficult to find.

"There are few studies or theoretical constructs established to examine a possible connection between one's inner life, one's relationships, and social violence" (James et al., 2003, p.132).

"Cultural factors in violence, abuse, and trauma need to be better researched. We have known for some time that culture matters when trauma is concerned; however, we need to fine-tune our knowledge of how culture matters in the definition..." (Carlson, 2005, p.123). This thesis is about mothers who relate to their children with a light smack for disciplinary reasons. That this is so difficult to grasp confirms that this is, indeed, an area for further exploration. Elizabeth Gershoff, highly respected and referenced in the area of physical discipline, began the "Report on Physical Punishment in the United States: What Research Tells Us about its Effects on Children" (2008) with the following:

For the purposes of this report, **physical punishment** is defined as *the use of* physical force with the intention of causing the child to experience bodily pain or discomfort so as to correct or punish the child's behaviour. This definition includes light physical force, such as a slap on a child's hand, as well as heavier physical force, including hitting children with hard objects such as a wooden spoon or paddle. However, physical punishment does not refer only to hitting children as a form of discipline; it also includes other practices that involve purposefully causing children to experience physical discomfort in order to punish them. Physical punishment thus also includes washing a child's mouth with soap, making a child kneel on sharp or painful objects (e.g., rice, a floor grate), placing hot sauce on a child's tongue, forcing a child to stand or sit in painful positions for long periods of time, and compelling a child to engage in excessive exercise or physical exertion. In the United States, physical punishment is known by a variety of euphemisms, including "spank," "smack," "slap," "pop," "beat," "paddle," "punch," whup/whip," and "hit." (p.9)

So why am I using an epilogue to reiterate the question of the 'definition' of physical discipline/punishment having already spent 40 pages on it already in this thesis. Gershoff's definition (2008) above, also endorsed by others prolific in the field of literature on physical discipline, registers that a 'smack' is more than the light physical discipline of children, or a light two-swat smack. Parts of this definition sound as if they are straight from the Rothenberg torture museum and have absolutely nothing to do with discipline and everything to do with punishment. Until we can clarify the difference between 'discipline' and 'punishment' in the documents, policies and practices endorsed by the state, I am of little doubt that

confusion around such practices will continue to have quite an impact on children during their development.

Policy implications need to be focussed on this as a very clear distinction. At the moment what is clearly best from a policy point of view is the ongoing support for parents who are trying to do their best to raise children, with their own "internal frames of reference" or "templates". Most parents welcome more tools and strategies for how to relate to and raise their children.

What is clear is that we need more research in the area of what works for mothers and caregivers as they struggle to raise children in the midst of competing demands and challenges that are personal, interpersonal and social. What the Q sorts revealed is that there is no clear impetus for deliberate cruelty on the part of New Zealand mothers toward their children but rather, that some mothers believed that "a smack is more than a smack" and others that "a smack is nothing more than a smack". In other words, some were prepared to use physical discipline when they felt it was needed and others felt that any kind of physical discipline was anathema. Which parents are right? The literature that was reviewed points to other questions: in particular that we maybe need to more carefully consider the mother-child relationship through the lens of theories of attachment and/or bio-ecological frameworks that highlight the socially embedded and relational aspects of childraising regardless of culture, background or socio-economic status.

It seems where we are up to in the literature and in our thinking is that we are beginning to consider the implications of child discipline in the context of positive versus punitive parenting, and if anything, perhaps this is the next area to develop further. The impact of positive and punitive parenting with respect to attachment issues would make an excellent topic for a thesis, should anyone be keen to pick that up.

Although the two factors that emerged in the Q sort in the first instance seem to be either for or against positions (and this was well known before the study started), these polarised viewpoints proved valuable for this thesis. When read abductively against the literature and synthesized the indeterminacy of the field became very clear. Do we even know what we are discussing when we talk of child discipline? If nothing else, I believe my study indicates the necessity to take a step back in order to challenge the discourses that exist in the literature as well as in our everyday conversations about these issues. Through my counsellor and counsellor educator lens I know that I am predisposed to be thinking about the significance of relationships in human interactions. Much of the grief I witness as a counsellor is determined by the challenges of relationships be it with children, partners, parents, siblings, colleagues, neighbours, or anyone else we know. What I hoped to tangle with in this study is the extent to which relationality underpins the way we think about and define issues of discipline. In the context of a positive relationship between a child and a caregiver a quick smack may, indeed, be nothing more than a smack. In a punitive context however, where the relationship is fraught by tensions and failed expectation the smack may well be far more than a smack even when it is delivered in the same way, and/or to the same extent.

Embarking on a Q study in this space was my attempt to 'feel my way' toward what the problem really was; the use of subjectivity from a cohort of mothers in Aotearoa New Zealand points to a flaw in our current logics. I am confident that the concourse represented the discourses and that saturation point for the statements was reached. The brilliance of Q is that it revealed subjective opinions, which, when read against the literature, confirm the two key findings.

Perhaps the question is nothing to do with smacking at all. Perhaps it is to do with the nature of relationships between caregivers and children. And if this is the case, then the role of the state is not to adjudicate the debate of whether the act was a smack or not but whether parents and caregivers are as best equipped as possible to build sound, loving and supportive relationships with children in which discipline is about enhancing positive outcomes for both caregiver and child.

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(27 July 2005) 627 NZPD 22086



ADVERTISEMENT

Mothers in New Zealand: Beliefs and attitudes towards child discipline and violence Researcher: Patricia Thompson, Massey University

STUDY ON CHILD DISCIPLINE SEEKS VOLUNTEERS *Mothers Needed*

Mothers are needed for a study on women's beliefs and attitudes towards child discipline and violence. Participants will be invited to take part in a Focus Group that would involve approximately 1 Y2 - .2 hours. The goal is to establish various statements that reflect beliefs and attitudes towards child discipline and violence within a New Zealand context.

After the Focus Group, participants will be invited back to do a card sort which involves sorting statements on cards with "most agree" to "most disagree" with on the various beliefs and attitudes towards child discipline and violence based mostly on the Focus Groups. Participating in this part of the study would also involve approximately 2 hours. Confidentiality is assured. If interested in more information please contact:

Patricia Thompson, PhD Candidate School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand p.a.thompson@massey.ac.nz / (06) 350 5799 x7656 / Fax (06) 350 5681



INFORMATION SHEET ~ FOCUS GROUPS

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

1. About the researcher.

Hi, my name is Patricia Thompson. I am a counsellor and a Massey University student. As part of my university PhD Studies I am conducting a research project under the supervision of Dr Mary Nash, Dr Jenny Coleman, and Dr Mary Eastham through the School of Health and Social Services. The purpose of this study is to explore beliefs and attitudes of New Zealand mothers towards child discipline and violence. I am asking for volunteers to help me conduct this study.

2. What is this study about?

You are invited to take part in a study on beliefs and attitudes of mothers in New Zealand towards child discipline and violence. As a result of this research I intend to contribute to the existing body of knowledge about child discipline and violence in New Zealand. In particular the relationship between internal beliefs external behaviours will be examined. Research results will be circulated through academic journals to address issues of concern in the field.

3. Who can take part in this study?

Mothers who have attended school in New Zealand are invited to participate in this study.

4. What would I have to do if I decide to take part?

If you volunteer you will be contacted by Patricia Thompson, the researcher, to make an appointment to sign a consent form and ensure there are not further questions. The first fifteen volunteers to respond will be contacted by the researcher. You will be part of a Focus Group to brainstorm as many statements as possible regarding beliefs, attitudes and behaviours towards child discipline and violence. The process will take approximately 1 $\frac{1}{2}$ to 2 hours. Information obtained will only be seen by my supervisors and myself, and is otherwise strictly confidential unless participants are at risk of being harmed or harming someone else. All names and any identifying information will be deleted or changed, and you will not be identified in the research report. All data will be stored with the researcher until 12 months after the thesis is completed.

Should you wish to participate, you have the right to change your mind and withdraw both yourself and any information from the study at any time without giving a reason. The researcher has an ethical obligation to ensure your safety should there be any concerns during the course of this study. Should there be any disclosure of violent behaviours that are not already being addressed, we will approach you after the session to ensure that you and/or your child/ren get appropriate help. There are members of the NZAC (New Zealand Association of Counsellors) prepared to be available for one free consultation to clarify, assist and support should the need arise. This includes the possibility of a referral for further counselling through the appropriate person or agency.

5. My rights as a participant:

All participants have the right to:

- Decline participation or to answer any particular question;
- Confidentiality;
- > All relevant information regarding the study;
- > Ask any questions about the research at any time during participation or afterwards;
- Withdraw information at any time;
- > Withdraw from the study at any time up until completion of analysis;
- > A summary of the findings of the research;
- > A courtesy follow-up phone call to participants a few days after the Focus Group.

All private information obtained will strictly confidential. The only persons who will have access to the information you provide will be my supervisors and myself. All data will be stored with the researcher until 12 months after the thesis is completed. All names and any identifying information will be deleted or changed, and you will not be identified in the research report.

Your participation is invaluable because it will shed light on this important issue. You are most welcome to offer any feedback you feel might be useful for this research. If you are interested in taking part in this study or for further information regarding, please contact me. Questions, comments or concerns are welcome.

Thank you very much,

Patricia Thompson (Researcher) School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand E-mail: p.a.thompson@massey.ac.nz Phone: (06) 350 5799 x7656 Fax: (06) 350 5681

Supervisor

Dr. Mary Nash, Senior Lecturer and MSW co-ordinator School of Health and Social Services / Massey University Private Bag 11-2221 Palmerston North, New Zealand m.nash@massey.ac.nz / (06) 356 9099 ext 2827 / Fax (06) 350 5681

In the unlikely event of a physical injury as a result of your participation in this study, you may be covered by ACC under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and your case will need to be assessed by ACC according to the provision of the 2002 Injury Prevention Rehabilitation and Compensation Act. If y our claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If you have ACC cover, generally this will affect your right to sue the investigators.

If you have any questions or concerns about your rights as a participant in this research study you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act. Telephone: (NZ wide) 0800 555 050 Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT) Email (NZ wide): advocacy@hdc.org.nz

Please note: This research will not be published for several years as it is part-time study thus there will be a delay between data collection and publication. Should you wish results of this research, the Massey University Library will have a copy of the thesis once completed. Alternatively, it may be possible to present findings in a seminar and you would be welcome to attend.

This study has received ethical approval from the Central Region Ethics Committee.



INFORMATION SHEET ~ Q-SORT

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

1. About the researcher.

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2. What is this study about?

You are invited to take part in a study on beliefs and attitudes of mothers in New Zealand towards child discipline and violence. As a result of this research I intend to contribute to the existing body of knowledge about child discipline and violence in New Zealand. It will offer you the opportunity to become clearer about your own beliefs and attitudes while participating. In particular the relationship between internal beliefs external behaviours will be examined. Research results will be circulated through academic journals to address issues of concern in the field.

3. Who can take part in this study?

Mothers who have attended school in New Zealand are invited to participate in this study.

4. What would I have to do if I decide to take part?

If you volunteer you will be contacted by Patricia Thompson, the researcher, to make an appointment to sign a consent form and ensure there are not further questions. If you agree to take part, you will be invited to sort cards with beliefs and attitudes listed on them. You will be asked to rank beliefs, attitudes and behaviours towards child discipline and violence by those you most agree with to those you least agree with. The process will take approximately 1 ½ to 2 hours.

Information obtained will only be seen by my supervisors and myself, and is otherwise strictly confidential unless participants are at risk of being harmed or harming someone else. All names and any identifying information will be deleted or changed, and you will not be identified in the research report. All data will be stored with the researcher until 12 months after the thesis is completed.

Should you wish to participate, you have the right to change your mind and withdraw both yourself and any information from the study at any time without giving a reason. The researcher has an ethical obligation to ensure your safety should there be any concerns during the course of this study. Should there be any disclosure of violent behaviours that are not already being addressed, we will approach you after the session to ensure that you and/or your child/ren get appropriate help. There are members of the NZAC (New Zealand Association of Counsellors) prepared to be available for one free consultation to clarify, assist and support should the need arise. This includes the possibility of a referral for further counselling through the appropriate person or agency.

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Thank you very much,

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If you have any questions or concerns about your rights as a participant in this research study you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act. Telephone: (NZ wide) 0800 555 050 Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT)

Email (NZ wide): <u>advocacy@hdc.org.nz</u>

Please note: This research will not be published for several years as it is part-time study thus there will be a delay between data collection and publication. Should you wish results of this research, the Massey University Library will have a copy of the thesis once completed. Alternatively, it may be possible to present findings in a seminar and you would be welcome to attend.

This study has received ethical approval from the Central Region Ethics Committee.



INFORMATION SHEET ~ INTERVIEW

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

1. About the researcher.

Hi, my name is Patricia Thompson. I am a counsellor and a Massey University student. As part of my university PhD Studies I am conducting a research project under the supervision of Dr Mary Nash, Dr Jenny Coleman, and Dr Mary Eastham through the School of Health and Social Services. The purpose of this study is to explore beliefs and attitudes of New Zealand mothers towards child discipline and violence. I am asking for volunteers to help me conduct this study.

2. What is this study about?

You are invited to take part in a study on beliefs and attitudes of mothers in New Zealand towards child discipline and violence. As a result of this research I intend to contribute to the existing body of knowledge about child discipline and violence in New Zealand. It will offer you the opportunity to become clearer about your own beliefs and attitudes while participating. In particular the relationship between internal beliefs external behaviours will be examined. Research results will be circulated through academic journals to address issues of concern in the field.

3. Who can take part in this study?

Mothers who have attended school in New Zealand are invited to participate in this study.

4. What would I have to do if I decide to take part?

If you volunteer you will be contacted by Patricia Thompson, the researcher, to make an appointment to sign a consent form and ensure there are not further questions. The six volunteers interviewed will be either the first to respond or chosen in collaboration with the contact person at the locality. You will be involved in an interview regarding beliefs, attitudes and behaviours towards child discipline and violence. The interview will take approximately 1 \sim to 2 hours. The interview will be specifically in the following areas:

- a) Discipline with children and if/when discipline becomes violent.
- b) The repeal of Section 59 of the Crimes Act.
- c) Violence in the world, New Zealand, communities, relationships, self and children. Responses to and overlap of.
- d) Ways behaviours/actions do or don't match with inner beliefs regarding the discipline of Children.

Information obtained will only be seen by my supervisors and myself, and is otherwise strictly confidential unless participants are at risk of being harmed or harming someone else. All names and any identifying information will be deleted or changed, and you will not be identified in the research report. All data will be stored with the researcher until 12 months after the thesis is completed.

Should you wish to participate, you have the right to change your mind and withdraw both yourself and any information from the study at any time without giving a reason. The researcher has an ethical obligation to ensure your safety should there be any concerns during the course of this study. Should there be any disclosure of violent behaviours that are not already being addressed, we will approach you after the session to ensure that you and/or your child/ren get appropriate help. There are members of the NZAC (New Zealand Association of Counsellors) prepared to be available for one free consultation to clarify, assist and support should the need arise. This includes the possibility of a referral for further counselling through the appropriate person or agency.

5. My rights as a participant:

All participants have the right to:

- Decline participation or to answer any particular question;
- Confidentiality;
- > All relevant information regarding the study;
- Ask any questions about the research at any time during participation or afterwards;
- > Turn off the tape at any time during the interview;
- Withdraw information at any time;
- > Withdraw from the study at any time up until completion of analysis;
- A summary of the findings of the research;
- > A courtesy follow-up phone call to interviewees a few days after the interview.

All private information obtained will strictly confidential. The only persons who will have access to the information you provide will be my supervisors and myself. All data will be stored with the researcher until 12 months after the thesis is completed. All names and any identifying information will be deleted or changed, and you will not be identified in the research report.

Your participation is invaluable because it will shed light on this important issue. You are most welcome to offer any feedback you feel might be useful for this research. If you are interested in taking part in this study or for further information regarding, please contact me. Questions, comments or concerns are welcome.

Thank you very much,

Patricia Thompson (Researcher) School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand E-mail: <u>p.a.thompson@massey.ac.nz</u> /Phone: (06) 350 5799 x7656 / Fax: (06) 350 5681

APPENDIX D

Supervisor

Dr. Mary Nash, Senior Lecturer and MSW co-ordinator School of Health and Social Services / Massey University Private Bag 11-2221 Palmerston North, New Zealand m.nash@massey.ac.nz / (06) 356 9099 ext 2827 / Fax (06) 350 5681

In the unlikely event of a physical injury as a result of your participation in this study, you may be covered by ACC under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and your case will need to be assessed by ACC according to the provision of the 2002 Injury Prevention Rehabilitation and Compensation Act. If y our claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If you have ACC cover, generally this will affect your right to sue the investigators.

If you have any questions or concerns about your rights as a participant in this research study you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act. Telephone: (NZ wide) 0800 555 050 Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT) Email (NZ wide): advocacy@hdc.org.nz

Please note: This research will not be published for several years as it is part-time study thus there will be a delay between data collection and publication. Should you wish results of this research, the Massey University Library will have a copy of the thesis once completed. Alternatively, it may be possible to present findings in a seminar and you would be welcome to attend.

This study has received ethical approval from the Central Region Ethics Committee.



CONSENT FORM ~ FOCUS GROUP

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence

Researcher: Patricia Thompson, Massey University

- 1. I have read and understood the information sheet for volunteers taking part in this study and my questions about the research have been answered to my satisfaction.
- 2. I have had the project explained to me by the researcher and understand I may ask further questions at any time.
- 3. I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study.
- 4. I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without giving a reason and this will in no way affect my future relationship with the Plunket Society.
- 5. I understand I am free to refuse to answer any particular questions, withdraw from the study, and to withdraw any information supplied at any time without giving a reason.
- 6. I agree to my participation being audio-taped by digital recorder and know that I have the right to ask for the recorder to be turned off at any time during the interview.
- 7. I understand I will be given the opportunity to edit my transcript from the interview if I so choose.
- 8. I understand brief direct quotations from the interview may be used in the study though these are completely confidential and will not identify me in any way.
- 9. I understand I will be advised of a qualified counsellor or social worker should the need to talk with someone arise.

- 10. I understand that the information I provide will not be used for any purpose other than this research, and that copyright of publications belongs with the researcher.
- 11. I understand the recordings from the interview will be stored with the researcher until 12 months after the research is completed, and then either sent to me or deleted, whichever I prefer.
- 12. I have had time to consider whether to take part in this study.
- 13. I know who to contact if I have any concerns or questions during this study.
- 14. I am aware the researcher has an ethical obligation to ensure my safety and the safety of my child/ren should there be any concerns during the course of this study.

I wish to participate in this study under the conditions set out on the information sheet for this study.
I(fullname)
consent to take part in this study.
(date)
 PLEASE CIRCLE I agree / disagree that my participation of the Focus Group may be used by the researcher.
 I would like / would not like to have a support person at the Focus Group.

Please feel free to contact the researcher if you have any questions about this study. Patricia Thompson, PhD Candidate School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand p.a.thompson@massey.ac.nz / (06) 350 5799 x7656 / Fax (06) 350 5681



CONSENT FORM ~ Q-SORT

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

- 1. I have read and understood the information sheet for volunteers taking part in this study and my questions about the research have been answered to my satisfaction.
- 2. I have had the project explained to me by the researcher and understand I may ask further questions at any time.
- 3. I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study.
- 4. I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without giving a reason and this will in no way affect my future relationship with Te Aroha Noa or the Plunket Society.
- 5. I understand I am free to refuse to answer any particular questions, withdraw from the study, and to withdraw any information supplied at any time without giving a reason.
- 6. I agree to my participation being audio-taped by digital recorder and know that I have the right to ask for the recorder to be turned *off* at any time during the interview.
- 7. I understand I will be given the opportunity to edit my transcript from the interview if I so choose.
- 8. I understand brief direct quotations from the interview may be used in the study though these are completely confidential and will not identify me in any way.
- 9. I understand I will be advised of a qualified counsellor or social worker should the need to talk with someone arise.

- 10. I understand that the information I provide will not be used for any purpose other than this research, and that copyright of publications belongs with the researcher.
- 11. I understand the recordings from the interview will be stored with the researcher until 12 months after the research is completed, and then either sent to me or deleted, whichever I prefer.
- 12. have had time to consider whether to take part in this study.

Group.

- 13. I know who to contact if I have any concerns or questions during this study.
- 14. I am aware the researcher has an ethical obligation to ensure my safety and the safety of my child/ren should there be any concerns during the course of this study.

I wish to participate in this study under the conditions set out on the information sheet for this study.
I (fullname)
consent to take part in this study.
(date)
 PLEASE CIRCLE I agree / disagree that my participation of the Focus Group may be used by the researcher.
• I would like / would not like to have a support person at the Focus

Please feel free to contact the researcher if you have any questions about this study. Patricia Thompson, PhD Candidate School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand p.a.thompson@massey.ac.nz / (06) 350 5799 x7656 / Fax (06) 350 5681

Demographic Information:

(Based on survey from Ministry of Social Development Campaign for action on Family Violence Questionnaire, with permission)

- 1. Can you tell me which of these age groups you are in:
 - 1. 18-24 years
 - 2. 25-29
 - 3. 30-34
 - 4. 35-39
 - 5. 40-44
 - 6. 45-49
 - 7. 50-54
 - 8. 55-59
 - 9. 60-64
 - 10. 65-69
 - 11. 70 years or older
 - 12. Preferred not to answer
- 2. Which ethnic group do you belong to? (From Census)
 - 1. New Zealand Maori
 - 2. New Zealand European or Pakeha
 - 3. Samoan
 - 4. Cook Island Maori
 - 5. Tongan
 - 6. Chinese
 - 7. Indian
 - 8. Other
 - 9. Preferred not to answer
- 3. Do you have any school or other qualifications?
 - 1. yes \rightarrow go to 4
 - 2. no → go to 5
 - 3. Preferred not to answer \rightarrow go to 5
- 4. Which of the following best describe your highest qualification?
 - 1. a school qualification
 - 2. a technical or trade qualification
 - 3. University or other professional qualification
 - 4. None of the above
 - 5. Don't know
 - 6. Preferred not to answer

5. And one question about income. Which group best describes the income that you yourself earned in the last 12 months in total, from all sources, before anything was taken out of it? (Bands from Census)

- 1. Loss
- 2. Zero income
- 3. \$1 \$5,000
- 4. \$ 5,000-\$10,000
- 5. \$10,001 -\$15,000
- 6. \$15,001 \$20,000
- 7. \$20,001 \$25,000
- 8. \$25,001 \$35,000
- 9. \$35,001 \$40,000
- 10. \$40,001-\$50,000
- 11. \$50,001 \$70,000

- 12. \$70,001-\$100,000 13. \$100,001- or more 14. (Don't know)
- 15. (Preferred not to answer)
- 6. How many people 18 years and over live in your household, including yourself?
- 7. And how many aged under 18?
- 8. Could you tell me which of the following best describes your current situation?
 - 1. You are married or in a civil union partnership?
 - 2. You have a partner, de facto, boyfriend or girlfriend that you live with
 - 3. You have a partner, de facto, boyfriend or girlfriend that you do not live with
 - 4. You are single
 - 5. Any other, please state
 - 6. Preferred not to answer

9. Those are all the questions I have. Do you have any other comments you'd like to make about the subject of this interview?

- 1. No
- 2. Comments



CONSENT FORM ~ INTERVIEW

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

- 1. I have read and understood the information sheet for volunteers taking part in this study and my questions about the research have been answered to my satisfaction.
- 2. I have had the project explained to me by the researcher and understand I may ask further questions at any time.
- 3. I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study.
- 4. I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without giving a reason and this will in no way affect my future relationship with Te Aroha Noa or the Plunket Society.
- 5. I understand I am free to refuse to answer any particular questions, withdraw from the study, and to withdraw any information supplied at any time without giving a reason.
- 6. I agree to my participation being audio-taped by digital recorder and know that I have the right to ask for the recorder to be turned off at any time during the interview.
- 7. I understand I will be given the opportunity to edit my transcript from the interview if I so choose.
- 8. I understand brief direct quotations from the interview may be used in the study though these are completely confidential and will not identify me in any way.
- 9. I understand I will be advised of a qualified counsellor or social worker should the need to talk with someone arise.
- 10. I understand that the information I provide will not be used for any purpose other than this research, and that copyright of publications belongs with the researcher.

- 11. I understand the recordings from the interview will be stored with the researcher until 12 months after the research is completed, and then either sent to me or deleted, whichever I prefer.
- 12. have had time to consider whether to take part in this study.
- 13. I know who to contact if I have any concerns or questions during this study.
- 14. I am aware the researcher has an ethical obligation to ensure my safety and the safety of my child/ren should there be any concerns during the course of this study.

I wish to p sheet for th		e conditions set out on the information
I		(fullname)
consent to	o take part in this study.	
	_	(date)
		ticipation of the Focus Group may be
	I would like <i>I</i> would not like to Group.	o have a support person at the Focus

Please feel free to contact the researcher if you have any questions about this study. Patricia Thompson, PhD Candidate School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand p.a.thompson@massey.ac.nz / (06) 350 5799 x7656 / Fax (06) 350 5681

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### FOCUS GROUP INSTRUCTIONS

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

Bring: flip charts I pens I blue tack I tacks I overhead positioning examples I envelopes I paper I pencils I yummy tea!

### INTRODUCTION

- Introduce myself. Tell briefly my story of family of origin, country of origin, my interest in this very personal.
- You are my 1st (2nd, etc?) focus group. I'm here to learn from you... certainly no expert... thank you for helping with this study...
- Invite them to introduce themselves:
  - Ever done anything like this before?
  - Key factor to your being here/interest in this study?
- Provide envelopes, paper & pencils should anyone wish to write anything and give to researcher in confidence at end of session. Any thoughts, general opinions, other statements... or just to scribble on). This provides another medium for any thoughts during the Focus Group.
- Reassure: Anonymous. No names.
- Show research title and aims of research on flip chart tack on wall.

### TITLE

Mothers in New Zealand: Beliefs and attitudes towards child discipline and violence

### AIMS OF RESEARCH

- What are the beliefs and attitudes of mothers in New Zealand towards child discipline and violence?
- How do mothers in New Zealand perceive the relationship between their interior life and external behaviours?

### WARMUP

(Start with meaning and keep questions very simple ... need to bring them there)

- Firstly I'll ask you to think about what it was like in your own home growing up around the whole issue of child discipline and smacking ... have you had conversations with your parentis about this? There are various definitions about what is child discipline and what is violence ... think about what that means to you ... some cultures thinks of something as violent where another culture doesn't...(whole smacking debate is continuing...) Discuss.
- > (Thus far a warm up ... this study is not on the debate itself)
- > Why do you think we were responding so strongly to the Sec 59 debate?
- You may have personal beliefs and attitudes, yet when we start thinking of statements in a few minutes remember to keep in mind that statements you say may or may not be your own ... the idea is to brainstorm as many different possible statements on the topic as possible.
- Mention beliefs and attitudes and behaviours/actions. Examples: you may believe it's important to exercise and eat healthy foods, though find yourself eating the ice cream again. Likewise, may believe it is not ok to smack a child but in the heat of the moment find yourself doing so...

- Brainstorm DIVERSE opinions on child discipline & violence. As varied a response as possible and aim to encompass the full range of possible positions in NZ. Don't have to agree with what you contribute, just like in debate where you think of pros and cons...
- We're going to think of lots of statements and list them on the flip charts. So it's not about what you personally think- though it may- but what anyone/someone in New Zealand might think.
- Most NZ mothers believe it's ok to smack their child. 1000 adults in 2001 in NZ survey. 75% thought smacking that left no mark was acceptable. 80% said physical punishment was acceptable.
- > You're in the supermarket, and you see a mother smack their child. Is it ok?
- > What belief would a person have to have to be able to smack their child?
- > What belief would a person have to have to refrain from smacking their child?
- Some examples (show on flipchart- tack on wall).
  - Statements about beliefs, attitudes and/or behaviours on:
    - child discipline.
    - child discipline and/or violence.

Examples of beliefs and attitudes:\*

- 1. Too much praise spoils a child.
- 2. Children should be allowed to disagree with their parents.
- 3. Children learn better by example than by punishment.
- 4. Protecting children is the responsibility of every adult in the community.
- 5. A parent should never smack their child.
- 6. Authorities should never take children away from their parents' care, no matter what.
- 7. Children are hurt when their parents yell and argue in front of them.
- 8. A parent should never hit their child.
- 9. Children who live with violent adults are likely to be violent themselves.
- 10. It's a parent's duty to manage their own stress so they don't lose control with their child.
- 11. Children should learn to obey without question.
- 12. A stressed out parent can be excused for hitting their child.
- 13. Children should be respected as human beings.
- 14. How parents treat their children is entirely their own business.
- 15. Children are badly affected by violence between adults in the home even when they don't see it.
- 16. It is excusable for a parent to smack a child if the child is about to run across a busy road.

(Adapted from Ministry of Social Development Campaign for action on Family Violence Questionnaire with permission).

### CLOSURE

(provides another medium to express anything at end)

- Any feedback- on how best to run future Focus Groups? Or anything else you would want to suggest to make this experience better?
- Collect any envelopes.
- Another cuppa when we finish. Here if anything else occurs to you & we could speak in private if you wish. Also my contact details are on the information sheet so should you think of anything else or want to discuss any concerns at all please don't hesitate to contact me.

### **Q-SORT CONDITION OF INSTRUCTION**

Before: Information Sheets and Consent Forms (with demographic information) Confirm location and time with space large enough? Any questions/concerns?

**Condition of Instruction:** *"How do you view the issue of the physical discipline of children? Please note that this study is not on physical abuse, rather, the light physical discipline of children. Please sort the statements on the cards in order to best illustrate your position."* 

- There are 44 cards numbered from 1 to 44. Cards may be changed or rearranged at any time. I would like to ask a few questions once finished. Assure of confidentiality. When you finish you will have no blank spaces on large Q sort Sheet and no cards left. Reassure about this not being a test or assessment of their views verses my views on child discipline, i.e. no right or wrong way to respond.
- 2. Read through the statements to gain a broad impression of their overall content, and at the same time, divide the cards into three groups, according to whether you agree, disagree, or are neutral, ambivalent, or indifferent.
- 3. Spread out the 'disagree with' statements. Read through them again and select the 3 statements you most strongly disagree with in the 3 boxes on the far left side of the large Q *sort Sheet.* The order underneath the columns have no particular order of significance, they are all treated equal.
- 4. Next, spread out the cards in the 'agree with' statements and read through them again. Select the 3 statements you most agree with and place them on the large Q *sort Sheet* in the next column.
- 5. Now return to the disagree pile. Select the next 3 cards you agree with, and place them in the appropriate column.
- 6. Now return to the agree pile. Select the next 3 cards that you most agree with, and place them in the under the appropriate agree column.
- 7. Repeat this process with 4, then 5 disagrees and agrees, and finally 6 cards under the middle column.
- 8. If you do not have enough cards to fill each column, select from amongst the cards to ensure you have no cards left and no blank spaces.
- 9. Have another good look at the Q *sort sheet* to make sure the statements in those positions represent your point of view adequately and make any adjustments now.

<sup>•</sup> Once completed, the researcher coded the statement number on the Q Score Sheet to have ready for analysis.

Semi-structured interview: Statements at extreme ends? Any statements missing? Any you feel particularly strong about or want to comment on? Any comments on #21...is it ok to be angry with your children?



### SEMI-STRUCTURED INTERVIEW

Mothers in New Zealand: Beliefs and attitudes on child discipline and violence Researcher: Patricia Thompson, Massey University

- Thank participant for agreeing to be interviewed
- Remind it will take approximately 1 ½ to 2 hours ... feel free to take break/have coffee, etc.
- Though consent form signed any other questions, concerns, or comments?
- Still ok to record? There are no right or wrong answers ... do not have to answer all the questions ... can say "pass" ... feel free to stop recording at any time ... confirm confidential nature of material

### Remind all this point from Patient Information Sheet (page 2) again:

Should you wish to participate, you have the right to change your mind and withdraw both yourself and any information from the study at any time without giving a reason. The researcher has an ethical obligation to ensure your safety should there be any concerns during the course of this study. Should there be any disclosure of violent behaviours that are not already being addressed, we will approach you after the session to ensure that you and/or your children get appropriate help. There are members of the NZAC (New Zealand Association of Counsellors) prepared to be available for one free consultation to clarify, assist and support should the need arise. This includes the possibility of a referral for further counselling through the appropriate person or agency.

### The research areas (to be further developed with Focus Groups, Qsorts, and further literature review):

- 1. Beliefs and attitudes towards child discipline and violence. International and National issues the same/different? Communities, relationships, self & children. Responses to and overlap of.
- 2. What was beneath the emotive country wide debate around the repeal of Section 59 of the Crimes Act... your reaction to the *response* ... *not* your opinion about the issue
- 3. Discipline with children and if/when discipline becomes violent.
- 4. Ways behaviours/actions do or don't match with inner beliefs regarding the discipline of children.
- 5. Relationship/overlap/connection with what is happening within self, relationships and New Zealand society.

### 

### Please feel free to contact the researcher if you have any questions about this study. Patricia Thompson, PhD Candidate School of Health and Social Services Massey University Private Bag 11-222 Palmerston North, New Zealand p.a.thompson@massey.ac.nz / (06) 350 5799 x7656 / Fax (06) 350 5681

| 1                                                                                | 2                                                                                            |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Children should be allowed to                                                    | It's never ok for a parent to                                                                |
| disagree with their parents.                                                     | smack their child.                                                                           |
| 3<br>Children should be respected<br>as human beings.                            | 4<br>We need to learn how to<br>intervene of we see a child<br>being hit severely in public. |
| 5                                                                                | 6                                                                                            |
| We are more likely to smack a                                                    | Children are more likely to be                                                               |
| child if we're feeling angry,                                                    | smacked of the family is poor                                                                |
| frustrated or tired.                                                             | or not well educated.                                                                        |
| 7<br>Mothers tend to smack<br>children more often but less<br>severely than men. | 8<br>I'm anti-abuse not 'anti-<br>smacking'.                                                 |

| 9<br>Children should learn to obey<br>without question.                                                    | 10<br>It is excusable for a parent to<br>smack a child under certain<br>circumstances.                                       |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 11                                                                                                         | 12                                                                                                                           |
| No one should tell me how to raise my kids.                                                                | How parents raise their child is<br>entirely their own business.                                                             |
| 13                                                                                                         | 14                                                                                                                           |
| It's useful to say 'wait till your<br>Father gets home'.                                                   | Even if we think a particular<br>behaviour is not acceptable, if<br>another culture thinks it is we<br>need to respect that. |
| 15                                                                                                         | 16                                                                                                                           |
| Mothers tend to smack for<br>disciplinary reasons rather<br>than put of anger or<br>frustration, like men. | Children best learn right from<br>wrong through the use of<br>physical punishment.                                           |
|                                                                                                            |                                                                                                                              |

| 17<br>Children in New Zealand, like<br>adults, have the right to be<br>protected from physical<br>assault.                            | 18<br>Many parents wish to use<br>alternatives to physical<br>discipline.                     |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 19<br>Smacking can teach respect.                                                                                                     | 20<br>It's a slippery slope when how<br>we raise our kids becomes a<br>social responsibility. |
| 21<br>It's no wonder we have a<br>'violent society' since there<br>are so many angry and<br>aggressive individuals in New<br>Zealand. | 22<br>Sports like rugby have nothing<br>to do with violence, they're just<br>sports.          |
| 23<br>Motherhood is so hard, no<br>wonder mothers sometimes<br>'lose it' and hit their children.                                      | 24<br>I follow the 'spare the rod,<br>spoil the child' thinking.                              |

### APPENDIX K

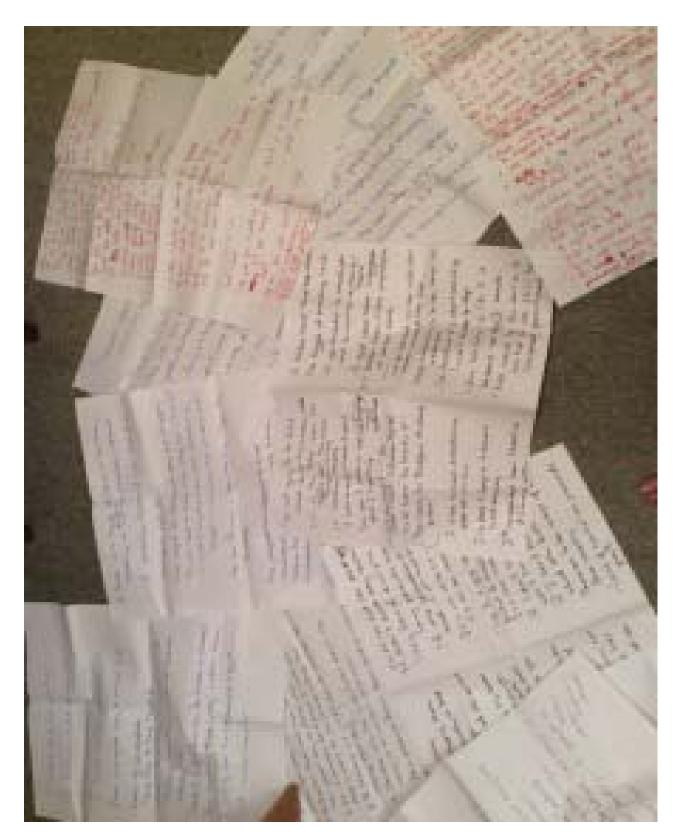
| 25<br>Children who are beaten often<br>become aggressive adults.                                                                         | 26<br>It's sometimes necessary to<br>smack our children because<br>we want them to grow up well.          |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 27<br>As a democratic nation<br>parents should continue to<br>have the right to discipline<br>their child(ren) by force if<br>necessary. | 28<br>I'm not going to be told what to<br>do by a nanny state.                                            |
| 29<br>Children receive less<br>protection than adults,<br>criminals and adults.                                                          | 30<br>A mother's self-control will<br>influence her parenting<br>practice.                                |
| 31<br>Children need to be nurtured<br>and protected.                                                                                     | 32<br>We have a responsibility to<br>protect children from parents<br>who cannot control their<br>temper. |

| 33<br>We need to be able to smack<br>when kids test parent's<br>authority.                   | 34<br>Since it is not possible to<br>reason with a child, sometimes<br>smacking is necessary.                                         |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 35<br>The repeal of Section 59<br>destroys the rights of parents<br>to raise their own kids. | 36<br>New Zealand parents are<br>capable of determining what is<br>reasonable force and this is<br>not the business of<br>government. |
| 37<br>I got smacked and it never did<br>me any harm.                                         | 38<br>The more people think<br>smacking is ok the more<br>violent the society.                                                        |
| 39<br>Our society is like it is<br>because we've allowed<br>smacking for so long.            | 40<br>Too much praise spoils a child.                                                                                                 |

| 41<br>Not all smacking leads to<br>abuse, but abuse all too<br>frequently starts with<br>smacking.                                                    | 42<br>Mothers with strong values will<br>teach their children resect and<br>self-restraint by never hitting<br>their children when they are<br>angry with them. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 43<br>A lot of people are actually<br>quite angry and frustrated with<br>their lives and this is what<br>really leads to the more<br>serious hitting. | 44<br>How much violence there is in<br>a country has nothing to do<br>with how we raise our kids.                                                               |
| 26 October 2009.                                                                                                                                      |                                                                                                                                                                 |

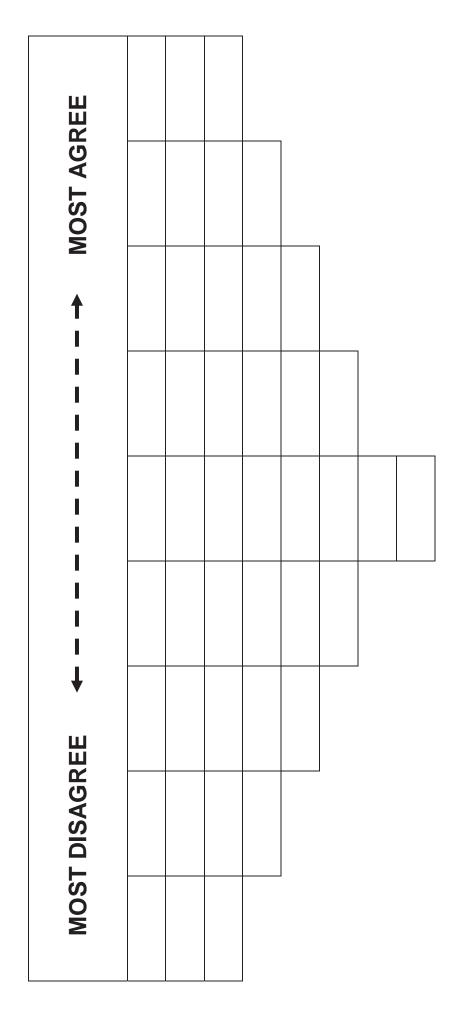
# FOCUS GROUP STATEMENTS FROM FLIP CHARTS

### **APPENDIX L**



**APPENDIX M** 

## **Score Sheet**



### **DOMESTIC VIOLENCE ACT 1995**

See ("Domestic Violence Act 1995 No 86 (as at 01 July 2010), Public Act," (as at 01 July 2010)) *Meaning of domestic violence* 

- (1) In this Act, **domestic violence**, in relation to any person, means violence against that person by any other person with whom that person is, or has been, in a domestic relationship.
  - (2) In this section, violence means -
    - (a) physical abuse:
    - (b) sexual abuse:
    - (c) psychological abuse, including, but not limited to,-
      - (i) intimidation:
      - (ii) harassment:
      - (iii) damage to property:
      - (iv) threats of physical abuse, sexual abuse, or psychological abuse:
      - (v) in relation to a child, abuse of the kind set out in subsection (3).

(3) Without limiting subsection (2)(c), a person psychologically abuses a child if that person -

- (a) causes or allows the child to see or hear the physical, sexual, or psychological abuse of a person with whom the child has a domestic relationship; or
- (b) puts the child, or allows the child to be put, at real risk of seeing or hearing that abuse occurring;-

but the person who suffers that abuse is not regarded, for the purposes of this subsection, as having caused or allowed the child to see or hear the abuse, or, as the case may be, as having put the child, or allowed the child to be put, at risk of seeing or hearing the abuse.

(4) Without limiting subsection (2),-

- (a) a single act may amount to abuse for the purposes of that subsection:
- (b) a number of acts that form part of a pattern of behaviour may amount to abuse for that purpose, even though some or all of those acts, when viewed in isolation, may appear to be minor or trivial.

(5) Behaviour may be psychological abuse for the purposes of subsection (2)(c) which does not involve actual or threatened physical or sexual abuse.

### **APPENDIX O**

### **DEMOGRAPHIC DATA FOR THE Q SET**

The 48 mothers who participated in the present study were all born and raised in New Zealand. Three were aged 25-29, six aged 30-34, five aged 35-39, six aged 40-44, six aged 45-49, seven aged 50-54, six aged 55-59, seven aged 60-64, and two aged 65-69. Twenty six identified with New Zealand European or Pakeha, nineteen identified with New Zealand Maori, and three as 'Other'. Describing their highest qualifications, thirty four had a University or other professional qualification, seven had a technical or trade qualification, and seven had a school qualification. Six preferred not to answer the question about income and two did not know, one reported zero income and one an income of between \$5,001 and \$10,000. One reported an income of \$15,001 to \$20,000, three in the income brackets of \$20,001 to \$25,000, two in the income brackets of \$25,001 to \$35,000, and five in the income brackets of \$35,001 to \$40,000. Seven participants identified with the \$40,001 to \$50,000, eleven in the income brackets of \$50,001 to \$70,000 and finally, nine identified with the \$70,001 to \$100.000.

Participants were asked how many people eighteen years and over live in their household, including themselves. Nine reported one, thirty two reported two, four reported three, and three reported four people eighteen years and over living in the house. When asked how many people in the household were under the age of eighteen, twelve mothers no longer had children at home. Fourteen mothers had one child at home, fifteen mothers had two children, four mothers had three children and three mothers had four children. Finally, the mothers were invited to indicate their current relationship situation. Twenty eight reportedly were married or in a civil union partnership. Nine have a partner, de facto, boyfriend or girlfriend that they live with. Eight were single, two were separated<sup>1</sup>, and one was a widow.

<sup>&</sup>lt;sup>1</sup> Two participants indicated 'separated' under "any other, please state". It is possible that either might have identified with being single if she was separated.

### APPENDIX P

### PQ ANALYSIS

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|---------|--------------------------------|
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| ethod2  | and                            |
| PQMet   | Path                           |

Correlation Matrix Between Sorts

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Correlation Matrix Between Sorts

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| 46       | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30      |
| 45       | 0000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |
| 44       | 1<br>4 4 0 4 0 4 0 4 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2       |
| 43       | 00001000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.<br>U |
| 42       | 222<br>232<br>232<br>232<br>232<br>232<br>232<br>232                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0       |
| 41       | 4         1         5         6         6         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7 <th7< th=""> <th7< th=""> <th7< th=""> <th7< th=""></th7<></th7<></th7<></th7<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |
| 40       | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1 5     |
| 39       | <pre>\$ 55 55 55 55 55 55 55 55 55 55 55 55 55</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,      |
| 38       | C 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |
| 37       | 20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 07      |
| 36       | 221 23<br>24 24<br>25 25<br>25 25<br>26 68<br>26 68<br>26 68<br>25 25<br>25 25                                                                                                                                                                   | 'n      |
| 35       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |
| 34       | →<br>→<br>→<br>→<br>→<br>→<br>→<br>→<br>→<br>→<br>→<br>→<br>→<br>→                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |
| 33       | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | n<br>n  |
| 32<br>32 | X X X X X X X X X X X X X X X X X X X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |
| 31       | 730<br>730<br>730<br>730<br>730<br>741<br>741<br>735<br>753<br>754<br>755<br>755<br>755<br>755<br>755<br>755<br>755<br>755<br>755                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 70      |
| SORTS    | <pre>2 P1<br/>2 P1<br/>4 P4<br/>5 P5<br/>5 P5<br/>5 P5<br/>6 P6<br/>9 P9<br/>9 P9<br/>10 P10<br/>11 P11<br/>11 P11<br/>11 P11<br/>11 P11<br/>11 P11<br/>11 P11<br/>12 P12<br/>14 P14<br/>15 P15<br/>16 P16<br/>17 P17<br/>19 P13<br/>19 P19<br/>19 P19<br/>22 P23<br/>22 P23<br/>22 P23<br/>23 P23<br/>33 P33<br/>33 P33<br/>20 P33<br/>2</pre> | 6d 8    |

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PAGE 3 May 15 15

PAGE 4 May 15 15

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PAGE 5 May 15 15

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Unrotated Factor Matrix

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tis 0.5820 0.5354 0<br>p1 0.5259 0.4122 0<br>p3 0.5259 0.4122 0<br>p4 0.8447 -0.11310 0<br>p5 0.8570 0.1557 0<br>p6 0.8570 0.1557 0<br>p1 0.8083 0.1557 0<br>p1 0.7466 0.1892 0<br>p1 0.7466 0.1892 0<br>p1 0.7466 0.1203 0<br>p1 0.7466 0.1203 0<br>p1 0.7456 0.2033 0<br>p1 0.7474 0<br>p1 0.7541 0.2175 0<br>p1 0.7541 0.2174 0<br>p1 0.7576 0.11714 0<br>p1 0.7576 0.11714 0<br>p1 0.7576 0.1583 0<br>p1 0.7576 0.17243 0<br>p1 0.7576 0.17243 0<br>p1 0.7576 0.17243 0<br>p1 0.7576 0.1744 0<br>p2 0.6837 0.6637 0<br>p2 0.6837 0.7614 0<br>p2 0.6637 0.7214 0<br>p2 0.7514 0.0751 0<br>p2 0.7514 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ot         | Factor Matrix<br>Factors<br>1 | 62          | m               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------|-------------|-----------------|
| pl 0.5354 0.5354 0<br>p2 0.7014 0.5354 0<br>p3 0.5529 0.5354 0<br>p4 0.8083 -0.0964 0<br>p6 0.8570 0.1557 0<br>p10 0.5559 0.1892 0<br>p11 0.7176 -0.2054 0<br>p12 0.7176 -0.2078 0<br>p13 0.7754 0.8330 0<br>p13 0.7754 0.8339 0<br>p14 0.7764 0.1892 0<br>p15 0.7764 0.1892 0<br>p16 0.7764 0.2859 0<br>p17 0.7649 0.0264 0<br>p13 0.7764 0.1892 0<br>p13 0.7764 0.2859 0<br>p14 0.7764 0.2811 0<br>p17 0.7544 0.2859 0<br>p17 0.7647 0.2859 0<br>p18 0.7764 0.2811 0<br>p17 0.7544 0.2861 0<br>p17 0.7643 0.07214 0<br>p17 0.7643 0.07214 0<br>p17 0.7643 0.07214 0<br>p17 0.7783 0.7764 0<br>p17 0.7644 0.07214 0<br>p23 0.7764 0.0527 0<br>p23 0.7764 0.0681 0<br>p23 0.7764 0.07214 0<br>p23 0.7764 0.07214 0<br>p23 0.7764 0.07214 0<br>p23 0.7764 0.07214 0<br>p24 0.7634 0.7634 0<br>p23 0.7764 0.07214 0<br>p23 0.7764 0.07214 0<br>p24 0.7634 0.7634 0<br>p23 0.7764 0.07214 0<br>p24 0.7634 0.7634 0<br>p26 0.7714 0.07537 0<br>p27 0.6734 0.7634 0<br>p28 0.7910 0.7714 0<br>p28 0.7910 0.7727 0<br>p28 0.7910 0.7528 0<br>p40 0.7553 0.07714 0<br>p41 0.7553 0.07714 0<br>p42 0.7553 0.07714 0<br>p42 0.7553 0.07714 0<br>p42 0.7553 0.07714 0<br>p44 0<br>p42 0.7553 0.07714 0<br>p44 0<br>p42 0.7553 0.07714 0<br>p44 0<br>p42 0.7553 0.07714 0<br>p44 0<br>p44 0<br>p42 0.7553 0.07714 0<br>p44 0<br>p4 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ORT        |                               |             |                 |
| p2 0.7014 -0.4133 0<br>p3 0.5559 -0.4022 0<br>p4 0.8670 0.1557 0<br>p6 0.8870 0.1557 0<br>p6 0.8870 0.1557 0<br>p1 0.7176 -0.1897 0<br>p1 0.7176 -0.1897 0<br>p1 0.7176 -0.2078 0<br>p1 0.7176 -0.2078 0<br>p1 0.2825 -0.5078 0<br>p1 0.7176 0.2875 0<br>p1 0.7273 0.7423 0<br>p1 0.7273 0.7423 0<br>p1 0.7273 0.7423 0<br>p1 0.7273 0<br>p1 0.7271 0<br>p1 0.7273 0<br>p1 0.7271 0<br>p1 0.7211 0<br>p1 0.7271 0<br>p1 0.7211 0<br>p1 0                                                                                                                                                                                                                                                                                                                                                                                                       | <pre>p2 0.7014 -0.4133 0<br/>p3 0.5559 -0.4133 0<br/>p5 0.8570 0.1557 0<br/>p6 0.8870 0.1557 0<br/>p10 0.8760 -0.1892 0<br/>p11 0.4797 0.1892 0<br/>p12 0.7176 -0.2691 0<br/>p13 0.77176 -0.2691 0<br/>p13 0.7764 0.2815 0<br/>p14 0.7764 0.2815 0<br/>p17 0.7849 0.1583 0<br/>p17 0.7849 0.1583 0<br/>p17 0.7849 0.1714 0<br/>p18 0.7764 0.2859 0<br/>p17 0.7749 0.2859 0<br/>p17 0.7743 0.7273 0<br/>p17 0.7743 0.2859 0<br/>p17 0.7743 0.7281 0<br/>p17 0.7743 0.7281 0<br/>p17 0.7743 0.72859 0<br/>p17 0.7743 0.72859 0<br/>p17 0.7743 0.7661 0<br/>p17 0.7743 0<br/>p17 0.7743 0<br/>p17 0.7744 0<br/>p17 0.7744 0<br/>p17 0.7749 0<br/>p17 0.7749 0<br/>p17 0.7749 0<br/>p17 0.7749 0<br/>p17 0.7749 0<br/>p17 0.7741 0<br/>p17 0</pre>                                                                                       | р,         | . 58                          | 0.535       | .154            |
| p3 0.5259 -0.1310 0.1557 0<br>p4 0.8447 -0.1310 0<br>p5 0.8447 -0.1310 0<br>p1 0.1557 0<br>p1 0.7460 0.1857 0<br>p1 0.7476 -0.1897 0<br>p1 0.7476 -0.1897 0<br>p13 0.8325 -0.5918 0<br>p14 0.2825 -0.5918 0<br>p15 0.2825 -0.5918 0<br>p16 0.7871 0.2875 0<br>p17 0.7871 0.1583 0<br>p18 0.7871 0.1583 0<br>p18 0.7871 0.1583 0<br>p19 0.7871 0.2874 0<br>p19 0.7873 -0.1978 0<br>p22 0.7873 -0.1978 0<br>p22 0.7814 0.2887 0<br>p22 0.7873 -0.1978 0<br>p23 0.77614 -0.1978 0<br>p24 0.7273 -0.1978 0<br>p25 0.7814 0.6851 0.0527 0<br>p26 0.77614 0.1978 0<br>p27 0.6811 0.4646 0<br>p28 0.7814 0.6871 0.0527 0<br>p28 0.77614 -0.1978 0<br>p29 0.7814 0.6511 0.0527 0<br>p21 0.7533 -0.1341 0<br>p22 0.7910 0.7287 0<br>p23 0.77614 0.0527 0<br>p24 0.7512 0.2887 0<br>p25 0.77614 0.05287 0<br>p26 0.7753 -0.1371 0<br>p27 0.7753 -0.1371 0<br>p28 0.7910 0.7279 0<br>p29 0.7910 0.2144 0<br>p20 0.7910 0.0527 0<br>p21 0.7578 0.1371 0<br>p21 0.7573 0.2860 0<br>p28 0.7910 0.7279 0<br>p29 0.7910 0.2587 0<br>p21 0.7910 0.2587 0<br>p21 0.7910 0.2587 0<br>p22 0.7910 0.2587 0<br>p23 0.7910 0.7279 0<br>p24 0.6631 0.07571 0<br>p25 0.1381 0<br>p26 0.7910 0.2587 0<br>p28 0.7910 0.2587 0<br>p28 0.7910 0.2587 0<br>p28 0.7910 0.2587 0<br>p28 0.1381 0<br>p28 0.07910 0.2587 0<br>p28 0.7910 0.2587 0<br>p28 0.7911 0.1301 0<br>p31 0.7911 0.7209 0<br>p33 0.6051 0.2887 0<br>p34 0.7911 0.1301 0<br>p34 0.7911 0.1301 0<br>p41 0.7911 0.1301 0<br>p41 0.7911 0.1301 0<br>p41 0.7911 0.1301 0<br>p41 0.7910 0.7209 0<br>p34 0.6051 0.2887 0<br>p34 0.7910 0.7910 0<br>p34 0.7910 0.7910 0<br>p34 0.7910 0<br>p34 0.7910 0<br>p34 0.7910 0<br>p34 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <pre>p3 0.55259 -0.4322 0<br/>p4 0.8447 -0.1310<br/>p5 0.8447 -0.1310<br/>p1 0.1557 0<br/>p1 0.1557 0<br/>p1 0.1557 0<br/>p1 0.1859 0.1892<br/>p1 0.2825 -0.5078 0<br/>p1 0.2825 0.0672 0<br/>p1 0.0721 0.1373 0<br/>p1 0.0721 0.0721 0<br/>p2 0.7214 0.02859 0<br/>p2 0.7214 0.02819 0<br/>p1 0.7273 0.1341 0<br/>p2 0.7214 0.02823 0<br/>p2 0.7214 0.2887 0<br/>p2 0.7214 0.2887 0<br/>p1 0.7273 0.1371 0<br/>p2 0.7215 0.1341 0<br/>p2 0.7214 0.2875 0<br/>p2 0.7214 0.2887 0<br/>p2 0.7214 0.2875 0<br/>p2 0.7214 0.2875 0<br/>p2 0.7214 0.2877 0<br/>p2 0.7214 0.0753 0<br/>p2 0.7214 0.0751 0<br/>p2 0.7215 0.1341 0<br/>p2 0.7215 0.1341 0<br/>p2 0.7217 0.1341 0<br/>p2 0.7217 0.1341 0<br/>p2 0.7219 0.2144 0<br/>p2 0.7219 0.2144 0<br/>p2 0.7219 0.2144 0<br/>p2 0.7211 0.1753 0<br/>p2 0.7217 0.1341 0<br/>p2 0.7219 0.2144 0<br/>p2 0.7211 0.1753 0<br/>p2 0.7219 0.2144 0<br/>p2 0.7210 0.7253 0.2107 0<br/>p2 0.7210 0.2144 0<br/>p2 0.7210 0.2144 0<br/>p2 0.7210 0.2144 0<br/>p2 0.7210 0.2144 0<br/>p2 0.7211 0.1211 0<br/>p2 0.7212 0.1311 0<br/>p2 0.7214 0<br/>p2 0.7214</pre>                                                                                                                                                                                                                                                                                                                                                                                                     | Ω,         | 101.                          | 0.413       | .094            |
| P4 0.844/ 0.844/ 0.1557 0<br>P5 0.8691 0.1557 0<br>P1 0.8570 0.1557 0<br>P1 0.7460 0.1892 0<br>P1 0.7460 0.1892 0<br>P1 0.7460 0.1892 0<br>P1 0.2175 0.2033 0<br>P1 0.2825 0.0264 0<br>P1 0.2825 0.0578 0<br>P1 0.2815 0.2678 0<br>P1 0.2815 0.2678 0<br>P1 0.2815 0.2781 0<br>P1 0.2815 0.7614 0.2887 0<br>P1 0.7249 0.0672 0<br>P1 0.7249 0.0672 0<br>P1 0.7249 0.0576 0.1783 0<br>P1 0.7249 0.0576 0.1781 0<br>P1 0.7249 0.0672 0<br>P2 0.7249 0.07249 0<br>P2 0.7241 0.0753 0<br>P2 0.7241 0.0753 0<br>P2 0.7241 0.07541 0<br>P2 0.7241 0<br>P2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | P4 0.844/ -0.1510 0<br>P5 0.8691 0.4797 0<br>P1 0.4797 0<br>P1 0.4797 0<br>P1 0.7460 -0.1892 0<br>P1 0.7460 -0.1892 0<br>P1 0.870 0.7460 -0.1892 0<br>P1 0.8325 -0.2678 0<br>P1 0.8329 -0.0591 0<br>P1 0.2848 0.1583 0<br>P1 0.7249 0.8448 0<br>P1 0.7249 0.0815 0<br>P1 0.7249 0.0672 0<br>P1 0.7273 0.1714 0<br>P2 0.7276 0.1714 0<br>P2 0.7277 0.1714 0<br>P2 0.7277 0.1714 0<br>P2 0.7278 0.1714 0<br>P2 0.6817 0.672 0<br>P2 0.7279 0.1714 0<br>P2 0.7219 0.2516 0<br>P2 0.7279 0.1714 0<br>P2 0.7219 0.2724 0<br>P2 0.7219 0.2724 0<br>P2 0.7219 0.2724 0<br>P2 0.7219 0.2724 0<br>P2 0.7219 0.1244 0<br>P2 0.7219 0.1244 0<br>P2 0.7219 0.1244 0<br>P2 0.7219 0.1244 0<br>P2 0.7219 0.2724 0<br>P2 0.7219 0.1244 0<br>P2 0.7210 0.1271 0<br>P2 0.7219 0.1244 0<br>P2 0.7210 0.1271 0<br>P2 0.7210 0.1271 0<br>P2 0.7210 0.1271 0<br>P2 0.7210 0.1271 0<br>P2 0.7211 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ω,         | 676.                          | 204.0       | 680.            |
| PD 0.8570 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1557 0.1552 0.1592 0.1593 0.1593 0.1513 0.1513 0.1514 0.22815 0.2514 0.1513 0.1514 0.22815 0.2614 0.1514 0.22815 0.2614 0.22859 0.27449 0.27544 0.22859 0.27544 0.22859 0.27544 0.22859 0.27544 0.22859 0.27544 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.25274 0.22859 0.22444 0.22859 0.25274 0.22817 0.22859 0.22444 0.2223 0.25274 0.22819 0.22444 0.2223 0.25276 0.22819 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25276 0.25277 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.2527 0.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <pre>py 0.8003 0.1557 0<br/>py 0.8570 0.1557 0<br/>py 0.5981 0.4797 0<br/>py 0.7176 -0.1892 0<br/>py 0.7176 -0.2054 0<br/>py 0.7176 -0.2054 0<br/>py 0.7175 -0.2078 0<br/>py 0.2825 0.5767 0.2517 0<br/>py 0.2875 0.7544 0<br/>py 0.7249 -0.0815 0<br/>py 0.7249 0.1724 0<br/>py 0.7249 0.0672 0<br/>py 0.7249 0.0672 0<br/>py 0.7273 0.1714 0<br/>py 0.7273 0.0672 0<br/>py 0.7273 0.0593 0<br/>py 0.7273 0.02144 0<br/>py 0.7308 0.17273 0.02144 0<br/>py 0.7308 0.7425 0<br/>py 0.7308 0.1731 0.0577 0<br/>py 0.7308 0.1731 0.0577 0<br/>py 0.7308 0.1731 0.07174 0<br/>py 0.7309 0.7727 0.1341 0<br/>py 0.7573 0.02144 0<br/>py 0.7727 0.7308 0.1476 0<br/>py 0.7727 0.7308 0.1476 0<br/>py 0.7514 0.02144 0<br/>py 0.7514 0.2257 0<br/>py 0.6837 -0.0751 0<br/>py 0.7514 0.2269 0<br/>py 0.7514 0.02144 0<br/>py 0.7512 0.7517 0<br/>py 0.7514 0.2269 0<br/>py 0.7514 0.02144 0<br/>py 0.7514 0.02587 0<br/>py 0.7512 0.07514 0<br/>py 0.7512 0.07514 0<br/>py 0.7512 0.07514 0<br/>py 0.7512 0</pre>                                                                                                                                                                                                                                                                                                                                                                                                     | ρ,         | 699.                          | 0.151       | 600.            |
| pc         0.4797         0.4797         0           p3         0.7460         0.4797         0           p10         0.7176         -0.1892         0           p11         0.28325         0.0264         0           p11         0.28325         -0.2073         0           p12         0.28309         -0.1892         0           p13         0.2815         -0.2175         0           p14         0.8309         -0.1591         0           p15         0.7423         0.1573         0           p16         0.7423         0.3004         0           p17         0.7423         0.1574         0           p20         0.7743         0.1672         0           p21         0.7423         0.1672         0           p21         0.7423         0.1672         0           p21         0.7423         0.1672         0           p22         0.7743         0.1714         0           p23         0.7743         0.1714         0           p23         0.7743         0.1974         0           p23         0.7743         0.1974         0      <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | pe<br>pe<br>pe<br>pe<br>pe<br>pe<br>pe<br>per<br>per<br>pe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | α,         | 808.                          | 0.090       | CUU.            |
| pg     0.7450     -0.1892     0       p10     0.7476     -0.1892     0       p11     0.2825     -0.0591     0       p13     0.2815     -0.0591     0       p14     0.2815     -0.1593     0       p15     0.2815     -0.0591     0       p14     0.7467     0.2175     0       p15     0.7423     0.6672     0       p16     0.7724     0.7831     0       p17     0.7723     0.1714     0       p21     0.7723     -0.1374     0       p22     0.7723     -0.13714     0       p23     0.7723     -0.13714     0       p23     0.7723     -0.13714     0       p24     0.7514     0.7423     0       p23     0.7743     0.1714     0       p24     0.7723     0.13714     0       p23     0.7743     0.13714     0       p23     0.7753     0.2667     0       p33     0.77614     0.1978     0       p33     0.77614     0.1978     0       p33     0.77614     0.1978     0       p33     0.77614     0.26726     0       p33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PR<br>PR<br>PR<br>PR<br>PR<br>PR<br>PR<br>PR<br>PR<br>PR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ω, ς       | 1003                          | CCT .       | TTO.            |
| pi     0.7176     0.0264     0       pi1     0.2825     0.0264     0       pi13     0.7176     -0.2033     0       pi14     0.28125     0.0264     0       pi15     0.28126     -0.5018     0       pi16     0.7607     0.2175     0       pi17     0.8310     0.6773     0       pi18     0.7249     0.0672     0       pi19     0.7244     0.2859     0       pi20     0.7871     0.4723     0       pi21     0.77871     0.4724     0       pi21     0.77871     0.4869     0       pi21     0.77871     0.4724     0       pi21     0.77873     -0.17978     0       pi23     0.77614     0.17414     0       pi24     0.7851     -0.0527     0       pi23     0.77614     0.17414     0       pi24     0.7865     0.17414     0       pi29     0.77614     0.17414     0       pi31     0.77614     0.1371     0       pi32     0.77614     0.1371     0       pi33     0.77614     0.1371     0       pi33     0.77614     0.1371     0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <pre>pic 0.8325 0.0264 0<br/>pil 0.2825 0.0264 0<br/>pil 0.2825 0.0203 0<br/>pil 0.2829 -0.5078 0<br/>pil 0.28486 0.1583 0<br/>pil 0.28486 0.1583 0<br/>pil 0.2876 0.1583 0<br/>pil 0.7249 0.0672 0<br/>pil 0.7249 0.0672 0<br/>pil 0.7544 0.2887 0<br/>pil 0.7785 -0.4224 0<br/>pil 0.77865 0.1786 0<br/>pil 0.77865 0.17865 0<br/>pil 0.77865 0.2887 0<br/>pil 0.77865 0.2887 0<br/>pil 0.7738 0.1774 0<br/>pil 0.7739 0.1774 0<br/>pil 0.7739 0.1774 0<br/>pil 0.7726 0.1774 0<br/>pil 0.7726 0.1774 0<br/>pil 0.7726 0.1774 0<br/>pil 0.7726 0.1774 0<br/>pil 0.7727 0.1731 0<br/>pil 0.7727 0.1731 0<br/>pil 0.7727 0.1731 0<br/>pil 0.7726 0.1771 0<br/>pil 0.7727 0.1731 0<br/>pil 0.7727 0<br/>pil 0.1730 0<br/>pil 0.1701 0<br/>pil</pre>                                                                                                                                                                                                                                    | 2, 0       | 746                           | 0.189       | 010             |
| pil 0.7176 -0.2033 0<br>pil 0.2825 -0.5078 0<br>pil 0.8309 -0.5078 0<br>pil 0.8486 0.1583 0<br>pil 0.7423 0.3014 0<br>pil 0.7249 0.0672 0<br>pil 0.7449 0.0672 0<br>pil 0.7471 0.2674 0<br>pil 0.7544 0.2887 0<br>pil 0.7785 -0.4224 0<br>pil 0.77865 -0.4224 0<br>pil 0.77865 -0.4287 0<br>pil 0.77865 -0.2887 0<br>pil 0.77865 -0.2887 0<br>pil 0.77865 -0.2887 0<br>pil 0.7738 -0.1714 0<br>pil 0.7273 0.1741 0<br>pil 0.7273 0.1714 0<br>pil 0.1738 0.1714 0<br>pil 0.1727 0<br>pil 0.1727 0<br>pil 0.7753 0.17814 0<br>pil 0.1751 0<br>pil 0.7753 0.1771 0<br>pil 0.1751 0<br>pil 0.7711 0.1311 0<br>pil 0.7711 0.1267 0<br>pil 0.7711 0.1311 0<br>pil 0.7711 0.1311 0<br>pil 0.7711 0.1311 0<br>pil 0.7711 0.1301 0<br>pil 0.7712 0.1381 0<br>pil 0.7711 0.1301 0<br>pil 0.7712 0<br>pil 0.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | pil 0.7176 -0.2033 0<br>pil 0.2825 -0.5078 0<br>pil 0.8309 0.5078 0<br>pil 0.28486 0.1583 0<br>pil 0.7249 -0.0815 0<br>pil 0.7249 -0.0815 0<br>pil 0.7423 0.3014 0<br>pil 0.7423 0.3014 0<br>pil 0.7424 0.2887 0<br>pil 0.7544 0.2887 0<br>pil 0.7544 0.2887 0<br>pil 0.7544 0.2887 0<br>pil 0.7544 0.2887 0<br>pil 0.7576 -0.4224 0<br>pil 0.7576 0.672 0<br>pil 0.7576 0.2887 0<br>pil 0.7578 0.1714 0<br>pil 0.7576 0.672 0<br>pil 0.7578 0.6847 0<br>pil 0.7730 0.1714 0<br>pil 0.7733 0.1714 0<br>pil 0.7733 0.1714 0<br>pil 0.7733 0.1714 0<br>pil 0.7733 0.1714 0<br>pil 0.7727 0.1174 0<br>pil 0.7727 0.1147 0<br>pil 0.7726 0.2434 0<br>pil 0.7721 0.1147 0<br>pil 0.7721 0.12414 0<br>pil 0.7721 0.12414 0<br>pil 0.7721 0.1147 0<br>pil 0.1301 0<br>pil 0.7210 0.0512 0<br>pil 0.7210 0.12414 0<br>pil 0.1301 0<br>pil 0.1301 0<br>pil 0.1301 0<br>pil 0.1301 0<br>pil 0.1147 0<br>pil 0.1301 0<br>pi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ι <u>Ω</u> | 832                           | 0.026       | .000            |
| pll 0.2825 -0.5078 0<br>pl2 0.7607 0.2591 0<br>pl3 0.7607 0.2591 0<br>pl5 0.7749 -0.0815 0<br>pl7 0.8309 -0.0815 0<br>pl7 0.7749 0.816 0.1583 0<br>pl9 0.7741 0.4274 0<br>pl9 0.7741 0.4274 0<br>pl9 0.7741 0.4274 0<br>pl9 0.7743 0.0659 0<br>pl9 0.7743 0.0659 0<br>pl9 0.7743 0.0659 0<br>pl9 0.7743 0.0659 0<br>pl9 0.7743 0.0591 0<br>pl9 0.7743 0.0591 0<br>pl9 0.7744 0.0597 0<br>pl9 0.7743 0.0593 0<br>pl9 0.7614 0.0693 0<br>pl9 0.7614 0.07918 0<br>pl9 0.7614 0.07514 0<br>pl9 0.7614 0<br>pl9 0.7723 0<br>pl9 0.7723 0<br>pl9 0.7723 0<br>pl9 0.7723 0<br>pl9 0<br>p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | pll 0.2825 -0.5078 0<br>pl2 0.8309 -0.0591 0<br>pl3 0.7607 0.2183 0<br>pl5 0.7749 -0.0815 0<br>pl6 0.7871 0.2859 0<br>pl8 0.7429 -0.0815 0<br>pl8 0.7429 -0.0815 0<br>pl8 0.7429 -0.0815 0<br>pl8 0.7429 -0.0815 0<br>pl8 0.7423 0.3044 0<br>pl9 0.7574 0.2859 0<br>pl9 0.7574 0.2859 0<br>pl9 0.7574 0.2859 0<br>pl9 0.7273 -0.1714 0<br>pl9 0.7323 0.1714 0<br>pl9 0.7723 0.1644 0<br>pl9 0.7723 0.1647 0<br>pl9 0.7614 0.0257 0<br>pl9 0.7721 0.1341 0<br>pl9 0.7721 0.1341 0<br>pl9 0.7721 0.1341 0<br>pl9 0.7721 0.1341 0<br>pl9 0.7721 0.1244 0<br>pl9 0.7721 0.1341 0<br>pl0 0.7553 -0.0751 0<br>pl0 0.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0 p1       | .717                          | 0.203       | .022            |
| p12 0.0591 0.0591 0<br>p13 0.7607 0.2175 0<br>p14 0.7423 0.3004 0<br>p18 0.7423 0.3004 0<br>p19 0.7423 0.3004 0<br>p19 0.7742 0.2175 0<br>p19 0.7742 0.672 0<br>p20 0.7742 0.621 0<br>p21 0.7742 0.281 0<br>p22 0.7742 0.1714 0<br>p23 0.77423 0.0593 0<br>p24 0.7851 0.0593 0<br>p26 0.7865 0.0887 0<br>p27 0.6651 0.0593 0<br>p28 0.7814 0<br>p28 0.7814 0<br>p29 0.6841 0.1978 0<br>p21 0.0593 0<br>p26 0.7308 0.1978 0<br>p21 0.7508 0.1978 0<br>p21 0.7508 0.1978 0<br>p21 0.7516 0.0563 0<br>p23 0.7910 0.7316 0<br>p33 0.7910 0.2144 0<br>p33 0.7910 0.2144 0<br>p33 0.7910 0.2587 0<br>p34 0.6634 0.2587 0<br>p35 0.7910 0.7308 0.1476 0<br>p33 0.7910 0.7308 0.1476 0<br>p33 0.7910 0.7316 0<br>p34 0.6634 0.2687 0<br>p34 0.6634 0.1476 0<br>p35 0.7910 0.7316 0<br>p36 0.7910 0.2587 0<br>p37 0.6711 0.1311 0<br>p41 0.7558 0.1381 0<br>p42 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p42 0.6051 0.2874 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p44 0<br>p44 0.7911 0.1301 0<br>p44 0<br>p4 0<br>p44 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | p12 0.0591 0.0591 0<br>p13 0.7607 0.2175 0<br>p14 0.7423 0.2175 0<br>p15 0.7423 0.5744 0<br>p17 0.7423 0.672 0.575<br>p18 0.7743 0.672 0<br>p19 0.7544 0.6724 0<br>p20 0.77544 0.4869 0<br>p21 0.77544 0.4869 0<br>p22 0.77544 0.7423 0.0281 0<br>p23 0.7753 -0.1714 0<br>p24 0.7753 -0.1714 0<br>p25 0.7753 -0.1714 0<br>p26 0.7723 -0.1714 0<br>p27 0.7723 0.7869 0<br>p2889 0.7614 0<br>p27 0.6851 -0.0527 0<br>p2889 0.7614 0<br>p27 0.6851 0.0527 0<br>p286 0.7614 0<br>p27 0.7514 0.0527 0<br>p286 0.7614 0<br>p27 0.7514 0.0527 0<br>p286 0.7614 0<br>p27 0.7514 0.05147 0<br>p286 0.7614 0<br>p27 0.7514 0.05147 0<br>p286 0.7614 0<br>p27 0.7514 0.05147 0<br>p286 0.7614 0<br>p286 0<br>p286 0.7614 0<br>p286 0<br>p286 0.7614 0<br>p286                                                                                                                                                                                                                                                                                                                                                                           | 1 p1       | .282                          | 0.507       | .145            |
| pl3 0.7607 0.2175 0<br>pl4 0.72496 0.1583 0<br>pl5 0.72496 0.1583 0<br>pl5 0.7249 0.0672 0<br>pl9 0.7724 0.0672 0<br>pl9 0.7724 0.0672 0<br>pl9 0.7727 0.4224 0<br>p22 0.7723 0.1714 0<br>p22 0.7423 0.1714 0<br>p23 0.7423 0.0781 0<br>p24 0.7273 0.1714 0<br>p25 0.6851 0.0527 0<br>p26 0.7614 0.1978 0<br>p27 0.6851 0.0527 0<br>p28 0.6851 0.0527 0<br>p28 0.7614 0.0527 0<br>p28 0.7614 0.0527 0<br>p28 0.7614 0.0527 0<br>p29 0.6819 0.1341 0<br>p20 0.7508 0.1341 0<br>p21 0.7516 0<br>p21 0.6631 0.0562 0<br>p23 0.7910 0.2144 0<br>p23 0.7910 0.0751 0<br>p24 0.7928 0.2867 0<br>p25 0.7910 0.0751 0<br>p33 0.7910 0.0751 0<br>p34 0.6631 0.1371 0<br>p34 0.6631 0.0751 0<br>p35 0.7910 0.2269 0<br>p36 0.7910 0.0751 0<br>p31 0.1772 0.2874 0<br>p32 0.6631 0.0751 0<br>p33 0.7910 0.0751 0<br>p34 0.7910 0.0751 0<br>p34 0.7910 0.0751 0<br>p44 0.7910 0.0751 0<br>p44 0.7910 0.7772 0.1381 0<br>p44 0.7910 0.7772 0.2874 0<br>p44 0.7910 0.0751 0<br>p44 0.0751 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7279 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7772 0.2874 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7911 0.1301 0<br>p44 0.7910 0.7209 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7209 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7209 0<br>p44 0.7910 0.7209 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7209 0<br>p44 0.7910 0.7209 0<br>p44 0.7911 0.1301 0<br>p44 0.7910 0.7209 0<br>p44 0.7910 0<br>p44 0.7910 0<br>p44 0.7910 0<br>p44 0<br>p44 0.7910 0<br>p44 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | pl3 0.7607 0.2175 0<br>pl4 0.2175 0<br>pl5 0.7249 0.2672 0<br>pl5 0.7249 0.0672 0<br>pl9 0.7744 0.2859 0<br>pl9 0.7744 0.2859 0<br>p20 0.7574 0.4264 0<br>p21 0.7753 -0.1786 0<br>p22 0.77614 0.2887 0<br>p23 0.77614 0.2887 0<br>p24 0.7273 0.1371 0.478 0<br>p25 0.7423 -0.1371 0<br>p26 0.7308 0.1371 0<br>p27 0.7308 0.2817 0<br>p28 0.6831 -0.0527 0<br>p29 0.7308 0.2144 0<br>p20 0.6848 0.2144 0<br>p20 0.6848 0.2144 0<br>p21 0.753 0.7917 0.1371 0<br>p33 0.7730 0.2867 0<br>p34 0.7730 0.21476 0<br>p34 0.7722 0.1341 0<br>p35 0.7726 0.21474 0<br>p36 0.6647 0.5726 0<br>p31 0.7727 0.1341 0<br>p32 0.7721 0.2744 0<br>p33 0.7721 0.2744 0<br>p34 0.7721 0.1341 0<br>p35 0.7911 0.2209 0<br>p36 0.6647 0.2444 0<br>p37 0.7727 0.1341 0<br>p38 0.7721 0.1341 0<br>p38 0.7721 0.1341 0<br>p30 0.7727 0.1341 0<br>p31 0.7721 0.1341 0<br>p32 0.7911 0.2744 0<br>p40 0.7553 0.7911 0<br>p40 0.7753 0.1301 0<br>p41 0.7721 0.1301 0<br>p41 0.7721 0.1301 0<br>p42 0.7911 0.1301 0<br>p44 0.7911                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 p1       | .830                          | 0.059       | .002            |
| p14 0.8486 0.1583 0<br>p15 0.7249 0.0815 0<br>p16 0.7871 0.4274 0<br>p19 0.7544 0.2859 0<br>p20 0.7544 0.2869 0<br>p21 0.7544 0.2887 0<br>p21 0.7273 -0.1714 0<br>p23 0.7273 -0.2887 0<br>p24 0.7273 -0.2887 0<br>p25 0.7865 -0.2887 0<br>p26 0.7273 -0.0281 0<br>p27 0.7308 0.1744 0<br>p28 0.8107 0.1744 0<br>p28 0.6821 -0.0527 0<br>p29 0.6848 0.2144 0<br>p21 0.7308 0.1741 0<br>p21 0.0962 0<br>p23 0.6848 0.2144 0<br>p23 0.7910 0.2144 0<br>p23 0.6848 0.2147 0<br>p23 0.6848 0.2144 0<br>p24 0.7308 0.2860 0<br>p34 0.7308 0.2860 0<br>p34 0.7910 0.7753 0.2756 0<br>p34 0.7753 0.17614 0<br>p34 0.7753 0.2756 0<br>p34 0.7753 0.1771 0<br>p34 0.7753 0.1771 0<br>p34 0.7753 0.1771 0<br>p44 0.7753 0.1772 0<br>p44 0.7753 0.1771 0<br>p44 0.7753 0.1772 0<br>p44 0.7753 0<br>p44 0<br>p44 0.7753 0<br>p44 0<br>p4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | p14 0.8486 0.1583 0<br>p15 0.7249 0.0815 0<br>p16 0.7249 0.0672 0<br>p18 0.7544 0.2859 0<br>p20 0.7544 0.2859 0<br>p21 0.7544 0.2887 0<br>p22 0.7544 0.2887 0<br>p23 0.7773 0.1714 0<br>p23 0.7455 0.6887 0<br>p26 0.7773 0.1714 0<br>p26 0.7773 0.1714 0<br>p27 0.7773 0.1714 0<br>p28 0.7814 0<br>p28 0.7814 0<br>p28 0.6814 0<br>p29 0.6848 0.2144 0<br>p29 0.6817 0.4078 0<br>p21 0.7730 0.1476 0<br>p33 0.7730 0.1476 0<br>p33 0.7725 0.1341 0<br>p33 0.7726 0<br>p33 0.7726 0.2144 0<br>p29 0.6837 0.0672 0<br>p33 0.7730 0.2144 0<br>p29 0.6837 0.0738 0<br>p141 0.7730 0.2144 0<br>p33 0.7726 0.1341 0<br>p33 0.7726 0.1476 0<br>p34 0.7730 0.2144 0<br>p33 0.7726 0.2144 0<br>p40 0.7730 0.2144 0<br>p41 0.7730 0.2144 0<br>p41 0.7730 0.2144 0<br>p41 0.7753 0.1476 0<br>p33 0.7726 0.1341 0<br>p41 0.7726 0.2434 0<br>p41 0.7725 0.1341 0<br>p42 0.6091 0.2243 0<br>p44 0.7721 0.1371 0<br>p41 0.7753 0.1371 0<br>p41 0.7753 0.1371 0<br>p42 0.6091 0.2243 0<br>p44 0.7721 0.1371 0<br>p44 0.7721 0<br>p44 0<br>p44 0.7721 0<br>p44 0<br>p                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3 p1       | .760                          | .217        | .023            |
| pl5 0.7249 -0.0815 0<br>pl6 0.7449 -0.0815 0<br>pl9 0.7871 0.4274 0<br>pl9 0.5274 -0.4229 0<br>p21 0.7541 0.42859 0<br>p22 0.7541 -0.42859 0<br>p22 0.77273 -0.1714 0<br>p23 0.7423 -0.0281 0<br>p24 0.7423 -0.0281 0<br>p25 0.7423 -0.0281 0<br>p26 0.7423 -0.0281 0<br>p27 0.7423 -0.0281 0<br>p26 0.7423 -0.0281 0<br>p27 0.7423 -0.0281 0<br>p26 0.7423 -0.0281 0<br>p27 0.7423 -0.0281 0<br>p28 0.7444 0<br>p28 0.6841 -0.1962 0<br>p28 0.7514 -0.1962 0<br>p28 0.7514 -0.1962 0<br>p29 0.8107 0.4078 0<br>p214 0<br>p21 0.0962 0<br>p31 0.7516 -0.2587 0<br>p33 0.6843 0.2860 0<br>p33 0.7726 0.5127 0<br>p33 0.7726 0.7316 0<br>p41 0.7526 0.7726 0<br>p41 0.7553 -0.0751 0<br>p42 0.6951 0.1381 0<br>p42 0.7526 0.7516 0<br>p44 0<br>p42 0.7528 0.6874 0<br>p44 0<br>p42 0.7553 -0.0751 0<br>p44 0<br>p42 0.7553 0.1381 0<br>p44 0<br>p42 0.7553 0.1381 0<br>p44 0<br>p42 0.7553 0.1381 0<br>p44 0<br>p44 0<br>p42 0.7553 0.1381 0<br>p44 0                                                                                                                                                                                                                                                                                                                                                                                                                                                    | pl5 0.7249 -0.0815 0<br>pl6 0.7423 0.3014 0<br>pl9 0.7544 0.2859 0<br>pl9 0.5744 0.2859 0<br>p20 0.5744 0.2859 0<br>p21 0.7544 0.4224 0<br>p22 0.7544 0.1714 0<br>p23 0.7423 -0.2881 0<br>p24 0.7423 -0.2881 0<br>p25 0.7423 -0.2881 0<br>p26 0.7423 -0.2881 0<br>p27 0.7414 0<br>p2889 0.7614 0<br>p2144 0<br>p29 0.6881 0.4846 0<br>p20 0.8107 0.7144 0<br>p214 0<br>p                                                                                                                                                                                                                                                                                         | 4 p1       | . 848                         | .158        | .012            |
| p17       0.7341       0.0677         p18       0.7544       0.4274       0         p21       0.7544       0.4274       0         p21       0.7544       0.4274       0         p21       0.7544       0.4274       0         p21       0.7544       0.4224       0         p21       0.7573       0.1714       0         p23       0.74423       -0.2881       0         p25       0.7443       -0.2811       0         p26       0.7743       -0.1974       0         p27       0.7614       -0.1978       0         p28       0.7614       0.1978       0         p29       0.7644       0.1978       0         p21       0.7644       0.1978       0         p23       0.7783       0.2144       0         p31       0.7783       0.2144       0         p33       0.7783       0.2147                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | pir 0.7343 0.5009 0.7209 0.7209 0.7209 0.7544 0.7544 0.7544 0.7544 0.7259 0.05276 0.42859 0.7223 0.05279 0.7223 0.7273 0.01714 0.7223 0.7423 0.7423 0.7423 0.7423 0.7723 0.02811 0.7229 0.7423 0.7723 0.02811 0.7227 0.7214 0.7214 0.7214 0.7214 0.7214 0.7214 0.7214 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 bl       | - 724                         | 180.        | .003            |
| p1/ 0.18/10 0.18/10 0.4264 0<br>p19 0.78310 0.4264 0<br>p21 0.4592 -0.4869 0<br>p22 0.7573 -0.1724 0<br>p23 0.7456 -0.2887 0<br>p24 0.7865 -0.2887 0<br>p25 0.7464 0.0281 0<br>p26 0.7865 -0.0581 0<br>p27 0.7614 -0.1978 0<br>p28 0.6851 -0.0527 0<br>p28 0.7614 0.1978 0<br>p29 0.7614 0.1978 0<br>p214 0<br>p29 0.7308 -0.1341 0<br>p31 0.7308 0.1446 0<br>p32 0.6848 0.2144 0<br>p33 0.7910 0.0962 0<br>p33 0.7910 0.0962 0<br>p34 0.6848 0.2144 0<br>p33 0.7910 0.0751 0<br>p34 0.6848 0.2860 0<br>p34 0.6848 0.2860 0<br>p34 0.7910 0.0751 0<br>p34 0.7910 0.2587 0<br>p34 0.6637 0.2720 0<br>p34 0.7910 0.2584 0<br>p34 0.7910 0.2587 0<br>p34 0.7910 0.2587 0<br>p34 0.7910 0.2729 0<br>p34 0.7910 0.2729 0<br>p34 0.6637 0.2729 0<br>p34 0.6637 0.2729 0<br>p34 0.7910 0.2729 0<br>p34 0.7910 0.2729 0<br>p34 0.6637 0.2887 0<br>p44 0.6631 0.1371 0<br>p44 0.7910 0.2587 0<br>p44 0.7910 0.2587 0<br>p44 0.2684 0.6671 0.2587 0<br>p44 0.7910 0.2587 0<br>p44 0.2533 0.1474 0<br>p44 0.7910 0.7277 0<br>p44 0.2533 0.1474 0<br>p44 0.2544 0.1474 0<br>p44 0.1474 0<br>p44 0.1446 0<br>p44 0.1446 0<br>p44 0.1446 0<br>p44 0.1446 0<br>p44 0.1446 0<br>p44 0.1446 0<br>p44 0.1474 0<br>p44 0.1474 0<br>p44 0.1474 0<br>p44 0.1474 0<br>p44 0<br>p44 0.1474 0<br>p44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | p1/ 0.3510 0.4574 0.4274 0.287<br>p19 0.7841 0.4254 0.2859 0.221 0.4592 0.4592 0.4592 0.4869 0.22887 0.2282 0.7273 0.02811 0.2287 0.2255 0.7423 0.02811 0.02627 0.2287 0.2269 0.22847 0.2287 0.2269 0.22847 0.2269 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.22847 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.22144 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2264 0.2264 0.2264 0.2264 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2264 0.2269 0.2264 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2269 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.2264 0.22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Td or      | 261 .                         | 000.        | C 50 .          |
| p19     0.7544     0.28579     0       p21     0.5276     -0.4224     0       p21     0.7547     -0.1786     0       p23     0.7273     -0.1786     0       p24     0.7273     -0.2887     0       p25     0.7865     -0.2887     0       p24     0.7865     -0.2887     0       p25     0.77614     -0.1978     0       p26     0.6851     -0.0527     0       p27     0.7614     -0.1978     0       p28     0.7614     -0.1978     0       p29     0.6881     0.10627     0       p21     0.7614     -0.1978     0       p23     0.7614     -0.1978     0       p31     0.7614     0.1978     0       p33     0.6834     0.1341     0       p33     0.7910     0.7963     0       p34     0.7738     -0.1341     0       p33     0.7910     0.7953     0       p34     0.7738     -0.1371     0       p34     0.7791     0.2867     0       p35     0.7910     0.7726     0       p40     0.7911     0.1376     0       p41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | p19       0.7544       0.2857       0         p21       0.4592       0.4224       0         p21       0.7544       0.2859       0         p22       0.7273       -0.1746       0         p23       0.7865       -0.2887       0         p24       0.7865       -0.2887       0         p25       0.7865       -0.2887       0         p26       0.7865       -0.2887       0         p27       0.7865       -0.2887       0         p28       0.7861       0.0593       0         p27       0.7861       0.0593       0         p28       0.7786       0.1978       0         p29       0.7814       0       0         p31       0.7514       0.1978       0         p33       0.77308       0.1476       0         p33       0.77308       0.1476       0         p33       0.77308       0.1476       0         p33       0.7720       0.1476       0         p33       0.7720       0.1476       0         p33       0.7720       0.1476       0         p40       0.7721                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Id a       | TSS.                          | 190.        | 200.            |
| p20     0.4592     -0.4224     0       p21     0.7273     -0.1714     0       p23     0.7273     -0.1714     0       p24     0.7423     -0.1714     0       p25     0.7423     -0.1714     0       p25     0.7723     -0.1714     0       p24     0.7723     -0.1714     0       p25     0.7723     -0.1714     0       p25     0.7765     -0.593     0       p26     0.8251     0.0593     0       p27     0.7614     -0.1974     0       p28     0.7614     -0.0527     0       p29     0.7614     0.0478     0       p21     0.7614     0.0478     0       p33     0.6342     0.2144     0       p34     0.7910     0.2144     0       p33     0.6542     0.5127     0       p34     0.6542     0.25147     0       p33     0.6637     -0.0557     0       p34     0.6637     0.25147     0       p35     0.6637     0.25147     0       p36     0.7726     0.1371     0       p41     0.7757     0.1371     0       p42     <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | P20<br>P21<br>P21<br>P21<br>P22<br>P22<br>P23<br>P23<br>P23<br>P23<br>P23<br>P23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20         | 754                           | 285         | 040             |
| p21     0.4592     -0.4869     0       p22     0.7273     -0.1714     0       p24     0.7425     -0.2881     0       p25     0.7425     -0.2881     0       p26     0.7851     -0.0593     0       p27     0.7614     0.0593     0       p28     0.8107     0.4078     0       p29     0.7614     -0.1978     0       p29     0.7614     -0.1978     0       p29     0.78189     0.2144     0       p31     0.7814     0.9962     0       p33     0.7814     0.2144     0       p33     0.7814     0.2144     0       p33     0.77304     0.2144     0       p33     0.77304     0.2144     0       p34     0.77803     0.2860     0       p35     0.6542     0.7304     0       p33     0.6633     0.1476     0       p41     0.7726     0.1381     0       p42     0.7910     0.7314     0       p43     0.7953     0.1381     0       p44     0.7953     0.1376     0       p44     0.7953     0.1381     0       p43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | p21     0.4592     -0.4869     0       p22     0.7273     -0.1714     0       p24     0.7423     -0.1714     0       p25     0.7423     -0.1744     0       p25     0.7423     -0.1744     0       p27     0.7423     0.0593     0       p26     0.8251     0.0527     0       p27     0.7614     0.1978     0       p29     0.8107     0.4078     0       p29     0.8107     0.4078     0       p29     0.7614     0.1944     0       p31     0.7308     0.01446     0       p33     0.77803     0.5127     0       p34     0.77803     0.5127     0       p33     0.77910     0.7436     0       p34     0.6637     -0.0577     0       p33     0.77910     0.1476     0       p34     0.77910     0.1476     0       p33     0.77910     0.2587     0       p40     0.77910     0.2209     0       p41     0.77910     0.7275     0       p43     0.77910     0.7275     0       p44     0.7751     0     0       p44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20 0       | 527                           | 0.422       | .098            |
| p22       0.7273       -0.1714       0         p23       0.7865       -0.2881       0         p25       0.7865       -0.2881       0         p25       0.7865       -0.2881       0         p26       0.8251       -0.0527       0         p27       0.7865       -0.0527       0         p26       0.8107       0.4078       0         p21       0.7614       -0.1978       0         p29       0.7614       -0.0527       0         p21       0.7614       -0.1978       0         p31       0.7614       -0.1978       0         p32       0.7614       -0.1978       0         p33       0.7308       0.1374       0         p33       0.7308       0.13446       0         p33       0.6542       0.5124       0         p33       0.7791       0.2867       0         p33       0.7792       0.1476       0         p34       0.6633       -0.2587       0         p35       0.7791       0.2147       0         p34       0.6633       -0.2587       0         p40       0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | p22       0.7273       -0.1714       0         p23       0.7423       -0.0281       0         p24       0.7865       -0.2887       0         p25       0.7865       -0.2887       0         p26       0.7865       -0.2887       0         p27       0.8251       -0.0527       0         p28       0.8107       0.1978       0         p29       0.8107       0.1978       0         p21       0.7614       -0.1978       0         p23       0.7614       0.1978       0         p31       0.7614       0.1978       0         p32       0.7308       0.1341       0         p33       0.6848       0.2144       0         p33       0.6643       0.2052       0         p34       0.7308       0.1341       0         p34       0.6633       0.2209       0         p33       0.7910       0.27209       0         p40       0.7720       0.1381       0         p41       0.7753       0.12739       0         p43       0.7753       0.1381       0         p43       0.7753<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1 02       | .459                          | 0.486       | .132            |
| p23     0.7423     -0.0281     0       p24     0.7865     -0.2887     0       p25     0.7865     -0.2887     0       p27     0.7614     -0.1978     0       p28     0.8107     0.1978     0       p29     0.8107     0.1978     0       p31     0.7514     0.1978     0       p33     0.7308     0.1341     0       p34     0.7338     0.1341     0       p33     0.77308     0.1341     0       p34     0.77308     0.1341     0       p34     0.77308     0.1341     0       p34     0.77308     0.1476     0       p35     0.66347     0.2567     0       p36     0.77910     0.2726     0.1376       p41     0.7753     0.1476     0       p42     0.7753     0.1376     0       p43     0.7753     0.2874     0       p44     0.7953     -0.2874     0       p43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | p23       0.7423       -0.0281       0         p24       0.7865       -0.2887       0         p25       0.7865       -0.2887       0         p26       0.6851       -0.0527       0         p27       0.7614       -0.1978       0         p27       0.8107       0.4078       0         p28       0.8107       0.4078       0         p29       0.8107       0.4078       0         p29       0.8107       0.4078       0         p31       0.7308       -0.1341       0         p33       0.7338       -0.1341       0         p33       0.77308       -0.1341       0         p33       0.77308       -0.1476       0         p34       0.77308       -0.1476       0         p34       0.7781       0.1476       0         p35       0.66837       -0.25316       0         p36       0.7791       0.21434       0         p37       0.7611       0.27434       0         p40       0.7725       -0.27434       0         p41       0.7753       -0.27434       0         p42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2 02       | .727.                         | 0.171       | .016            |
| p24     0.7865     -0.2887     0       p25     0.68251     0.0593     0       p26     0.6811     -0.0593     0       p27     0.7614     -0.1978     0       p29     0.8107     0.4078     0       p29     0.8107     0.4078     0       p29     0.7614     -0.1977     0       p29     0.8107     0.4078     0       p29     0.7308     0.2144     0       p31     0.7308     -0.1341     0       p32     0.7308     -0.1341     0       p33     0.7308     -0.1341     0       p34     0.7308     -0.1341     0       p34     0.7512     0.2860     0       p34     0.6642     0.2864     0       p34     0.7510     0.2860     0       p35     0.7510     0.2867     0       p34     0.6637     -0.0672     0       p38     0.6637     0.2864     0       p41     0.7727     0.1371     0       p42     0.7953     -0.2874     0       p43     0.7953     -0.2874     0       p44     0.7953     -0.2874     0       p43 <t< td=""><td>p24     0.7865     -0.2887     0       p25     0.8251     0.0593     0       p27     0.7614     -0.1978     0       p28     0.88107     0.4078     0       p29     0.88107     0.4078     0       p29     0.88107     0.1978     0       p29     0.88107     0.1978     0       p29     0.8819     0.2144     0       p31     0.7308     -0.1341     0       p33     0.7303     0.2144     0       p33     0.7303     0.1341     0       p33     0.7791     0.6632     0       p34     0.6437     0.2867     0       p35     0.7910     0.6723     0       p37     0.6437     0.2587     0       p33     0.6437     0.2587     0       p41     0.7721     0.1476     0       p43     0.7721     0.1476     0       p44     0.7725     0.1371     0       p43     0.7725     0.1371     0       p44     0.7755     0.0751     0       p44     0.7755     0.1371     0       p44     0.7755     0.1371     0       p43     0.77</td><td>3 p2</td><td>.742</td><td>0.028</td><td>.000</td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | p24     0.7865     -0.2887     0       p25     0.8251     0.0593     0       p27     0.7614     -0.1978     0       p28     0.88107     0.4078     0       p29     0.88107     0.4078     0       p29     0.88107     0.1978     0       p29     0.88107     0.1978     0       p29     0.8819     0.2144     0       p31     0.7308     -0.1341     0       p33     0.7303     0.2144     0       p33     0.7303     0.1341     0       p33     0.7791     0.6632     0       p34     0.6437     0.2867     0       p35     0.7910     0.6723     0       p37     0.6437     0.2587     0       p33     0.6437     0.2587     0       p41     0.7721     0.1476     0       p43     0.7721     0.1476     0       p44     0.7725     0.1371     0       p43     0.7725     0.1371     0       p44     0.7755     0.0751     0       p44     0.7755     0.1371     0       p44     0.7755     0.1371     0       p43     0.77                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3 p2       | .742                          | 0.028       | .000            |
| p25     0.8251     0.0593     0       p27     0.7614     0.1978     0       p28     0.7614     0.1978     0       p29     0.8107     0.4078     0       p29     0.7614     0.1978     0       p29     0.7614     0.1978     0       p29     0.7614     0.9657     0       p29     0.78189     0.2144     0       p31     0.7304     0.9962     0       p32     0.7308     0.1341     0       p33     0.7303     0.4078     0       p33     0.7303     0.5127     0       p33     0.7303     0.4446     0       p34     0.77803     0.5127     0       p33     0.6648     0.4846     0       p34     0.6726     0.7316     0       p35     0.6848     0.1476     0       p38     0.6437     0.2269     0       p41     0.7772     0.1381     0       p42     0.7953     -0.2874     0       p43     0.7953     -0.2874     0       p44     0.7953     -0.2874     0       p43     0.7953     -0.2874     0       p43     0.791                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | p25 0.8251 0.0593 0<br>p26 0.6851 -0.0527 0<br>p28 0.681 -0.0527 0<br>p29 0.6889 0.2144 0<br>p31 0.7308 -0.1341 0<br>p32 0.6542 0.2144 0<br>p33 0.7308 -0.1341 0<br>p33 0.7308 -0.1341 0<br>p33 0.7803 0.5867 0<br>p34 0.6837 -0.672 0<br>p35 0.7910 -0.2587 0<br>p36 0.7910 -0.2587 0<br>p37 0.5726 -0.3516 0<br>p38 0.6437 0.2573 0<br>p41 0.7573 -0.0751 0<br>p41 0.7553 -0.0751 0<br>p42 0.7553 -0.0751 0<br>p44 0.7721 0.1371 0<br>p43 0.7721 0.1371 0<br>p44 0.7721 0.1371 0<br>p44 0.7753 -0.0751 0<br>p44 0.7751 0<br>p44 0.7753 -0.0751 0<br>p44 0.7751 0<br>p44 0.7753 -0.0751 0<br>p44 0.7751 0<br>p44 0.7553 -0.0751 0<br>p44 0.7553 -0.0751 0<br>p44 0.7553 -0.0751 0<br>p44 0.751 0<br>p44 0<br>p44 0.751 0<br>p44 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4 p2       | .786                          | 0.288       | .045            |
| p26 0.6851 -0.0527 0<br>p28 0.8107 0.4078 0<br>p28 0.8107 0.4078 0<br>p31 0.7614 -0.1978 0<br>p331 0.7614 0.0962 0<br>p332 0.6542 0.5127 0<br>p332 0.6542 0.5127 0<br>p334 0.6542 0.5127 0<br>p335 0.77910 0.5124 0<br>p35 0.77910 0.5867 0<br>p36 0.77910 0.2587 0<br>p37 0.6848 0.4846 0<br>p38 0.6772 0.1381 0<br>p41 0.7772 0.1381 0<br>p42 0.7772 0.1381 0<br>p42 0.7772 0.1381 0<br>p44 0<br>p43 0.7772 0.1381 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p44 0.7773 0.6651 -0.2874 0<br>p43 0.7772 0.1381 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0.7911 0<br>p44 0.7911 0<br>p44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | p26 0.6551 -0.0527 0<br>p27 0.7614 -0.1978 0<br>p28 0.8107 0.4078 0<br>p30 0.8107 0.4078 0<br>p31 0.6344 0.0962 0<br>p32 0.5347 0.0542 0<br>p33 0.57308 -0.1341 0<br>p33 0.7308 -0.1341 0<br>p33 0.7308 0.5127 0<br>p335 0.7910 -0.2587 0<br>p335 0.7910 -0.2587 0<br>p336 0.6848 0.4846 0<br>p336 0.5726 -0.1341 0<br>p41 0.7725 -0.1381 0<br>p41 0.7753 -0.0751 0<br>p43 0.7772 0.1381 0<br>p41 0.7753 -0.0751 0<br>p43 0.7772 0.1381 0<br>p44 0<br>p44 0.7753 -0.0751 0<br>p43 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p44 0.7911 0.1301 0<br>p44 0                                                                                                                                                                                                                                | 5 p2       | .825                          | .059        | .001            |
| p27 0.7614 -0.1978 0<br>p28 0.8107 0.4078 0<br>p29 0.8889 0.2144 0<br>p31 0.6344 0.9662 0<br>p32 0.5344 0.9662 0<br>p33 0.57308 -0.1341 0<br>p33 0.5738 -0.1341 0<br>p33 0.5738 -0.1341 0<br>p33 0.5736 0.5127 0<br>p35 0.66348 0.6637 0.2587 0<br>p36 0.6634 0.2587 0<br>p37 0.6634 0.2587 0<br>p38 0.6634 0.2791 0<br>p38 0.6631 -0.2587 0<br>p41 0.7910 0.2587 0<br>p42 0.7910 -0.2587 0<br>p43 0.7910 -0.2587 0<br>p44 0<br>p43 0.7910 0.2587 0<br>p44 0.2583 -0.0751 0<br>p44 0.7953 -0.0751 0<br>p44 0.7953 -0.2774 0<br>p44 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0.7911 0<br>p44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | p27     0.7614     -0.1978     0       p28     0.8107     0.4078     0       p29     0.8107     0.4078     0       p31     0.7308     -0.1341     0       p33     0.7308     -0.1341     0       p34     0.7308     -0.1341     0       p35     0.7308     -0.1341     0       p34     0.7308     -0.1341     0       p35     0.77308     -0.1341     0       p34     0.77308     -0.1341     0       p35     0.77308     -0.1341     0       p34     0.77308     -0.1341     0       p35     0.77308     -0.1672     0       p36     0.7791     0.12846     0       p41     0.7772     0.1381     0       p43     0.7717     0.1381     0       p44     0.7753     -0.0751     0       p43     0.7753     -0.1381     0       p44     0.7753     -0.2844     0       p43     0.7753     -0.2844     0       p44     0.7753     -0.2844     0       p43     0.7753     -0.2844     0       p44     0.7753     -0.2844     0       p43<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6 p2       | . 685                         | 0.052       | .001            |
| p28         0.810/         0.41/8         0           p30         0.889         0.2144         0           p31         0.7308         0.1341         0           p31         0.7308         0.1341         0           p32         0.7308         0.1341         0           p33         0.7889         0.2127         0           p34         0.6542         0.25127         0           p33         0.7803         0.2860         0           p34         0.6837         -0.672         0           p35         0.5726         0.3516         0           p37         0.6837         -0.672         0           p37         0.5726         0.3516         0           p38         0.6437         0.22897         0           p41         0.7723         0.1371         0           p42         0.7911         0.1371         0           p43         0.7953         -0.2874         0           p44         0.7953         -0.2874         0           p43         0.7953         -0.2874         0           p44         0.7953         -0.2874         0 <t< td=""><td>p28     0.810/<br/>0.24448     0.24448<br/>0.24448       p31     0.7308     0.1341<br/>0.7308     0.0962<br/>0.1341       p33     0.7308     0.1341<br/>0.7308     0.0962<br/>0.5127       p33     0.77308     0.1341<br/>0.5127     0       p33     0.77308     0.1341<br/>0.5127     0       p33     0.77308     0.1341<br/>0.5726     0       p335     0.77308     0.1476     0       p335     0.7726     0.2209     0       p339     0.7726     0.2209     0       p339     0.7726     0.2209     0       p41     0.7726     0.2434     0       p43     0.7727     0.13476     0       p44     0.7726     0.2434     0       p43     0.7725     0.1371     0       p44     0.7911     0.1301     0       p54     0.7911     0.1301<!--</td--><td>7 p2</td><td>.761</td><td>161.0</td><td>120.</td></td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | p28     0.810/<br>0.24448     0.24448<br>0.24448       p31     0.7308     0.1341<br>0.7308     0.0962<br>0.1341       p33     0.7308     0.1341<br>0.7308     0.0962<br>0.5127       p33     0.77308     0.1341<br>0.5127     0       p33     0.77308     0.1341<br>0.5127     0       p33     0.77308     0.1341<br>0.5726     0       p335     0.77308     0.1476     0       p335     0.7726     0.2209     0       p339     0.7726     0.2209     0       p339     0.7726     0.2209     0       p41     0.7726     0.2434     0       p43     0.7727     0.13476     0       p44     0.7726     0.2434     0       p43     0.7725     0.1371     0       p44     0.7911     0.1301     0       p54     0.7911     0.1301 </td <td>7 p2</td> <td>.761</td> <td>161.0</td> <td>120.</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7 p2       | .761                          | 161.0       | 120.            |
| p29         0.8889         0.2144         0           p31         0.7308         0.0964         0           p31         0.7308         0.1341         0           p32         0.7308         0.5127         0           p33         0.7308         0.5127         0           p34         0.7308         0.5127         0           p33         0.6542         0.5127         0           p34         0.6542         0.5860         0           p35         0.7910         0.4846         0           p35         0.6637         0.2860         0           p36         0.5726         0.0672         0           p38         0.6437         0.22587         0           p40         0.7727         0.1371         0           p41         0.7573         0.1371         0           p42         0.7958         -0.2874         0           p43         0.7953         -0.2874         0           p43         0.7953         -0.2874         0           p43         0.7958         -0.2874         0           p44         0.7958         -0.2874         0      <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | p29 0.63489 0.2144 0<br>p31 0.6542 0.5127 0<br>p32 0.6542 0.5127 0<br>p33 0.7308 -0.1341 0<br>p33 0.7803 0.5866 0<br>p35 0.6837 -0.6672 0<br>p36 0.6837 -0.0672 0<br>p37 0.57910 -0.2587 0<br>p38 0.6437 0.2587 0<br>p39 0.7814 0<br>p41 0.7255 -0.3516 0<br>p41 0.7255 -0.2587 0<br>p42 0.6437 0.2209 0<br>p43 0.7275 0.13476 0<br>p44 0.7721 0<br>p41 0.7553 -0.0751 0<br>p41 0.7553 -0.0751 0<br>p42 0.7553 -0.0751 0<br>p43 0.7721 0<br>p44 0<br>p44 0<br>p44 0<br>p44 0.7755 -0.2874 0<br>p44 0<br>p44 0.7755 -0.2874 0<br>p44 0<br>p42 0.7553 -0.0751 0<br>p44 0<br>p555 -0.2874 0<br>p44 0<br>p44 0<br>p44 0<br>p44 0<br>p44 0<br>p44 0<br>p7217 0<br>p7217 0<br>p7210 0<br>p651 -0.2874 0<br>p7210 0<br>p7210 0<br>p7275 0<br>p7210 0<br>p7276 0<br>p7277 0<br>p7276 0<br>p7276 0<br>p7277 0<br>p7276 0<br>p7276 0<br>p7276 0<br>p7277 0<br>p7276 0<br>p7276 0<br>p7276 0<br>p7277 0<br>p7276 0<br>p7276 0<br>p7277                                                              | 8 p2       | . 810                         | 401         | .086            |
| p30         0.6544         0.0962           p31         0.7308         0.1341         0           p32         0.7308         0.1341         0           p33         0.7803         0.5127         0           p33         0.7803         0.5127         0           p34         0.6642         0.5127         0           p35         0.7803         0.2860         0           p35         0.7810         0.4846         0           p35         0.6537         0.0671         0           p36         0.7726         0.1476         0           p40         0.75726         0.1381         0           p41         0.7573         0.1381         0           p42         0.7953         -0.2874         0           p43         0.7953         -0.2874         0           p44         0.7953         -0.2874         0           p43         0.7953         -0.2874         0           p44         0.7953         -0.2874         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | p30       0.6344       0.0952         p31       0.7308       0.1341       0         p32       0.6542       0.5127       0         p33       0.6542       0.5127       0         p33       0.7308       0.5127       0         p34       0.6542       0.5127       0         p35       0.7910       0.5127       0         p35       0.6547       0.2860       0         p36       0.7910       -0.2587       0         p37       0.5726       -0.3516       0         p41       0.5726       0.1381       0         p41       0.7553       -0.0751       0         p43       0.7753       -0.1381       0         p44       0.7553       -0.2434       0         p43       0.7753       -0.2434       0         p43       0.7911       0.1301       0         p44       0.7911       0.130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | p2         | . 888                         | .214        | .022            |
| p31         0.1308         -0.1341         0           p32         0.6542         0.5131         0           p33         0.7803         0.2860         0           p34         0.6642         0.2860         0           p35         0.7910         0.6837         -0.0672         0           p36         0.7910         -0.2587         0         0           p37         0.5726         -0.3516         0         0           p37         0.5726         -0.3516         0         0           p39         0.5726         -0.3516         0         0           p41         0.2733         0.1476         0         0           p42         0.7953         -0.0751         0         0           p43         0.7911         0.1381         0         0           p43         0.7911         0.1301         0         0           p43         0.7911         0.1301         0         0           p43         0.7911         0.1301         0         0           p44         0.7911         0.1301         0         0           p44         0.7911         0.1301         0<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | P31 0.1308 -0.1341 0<br>p32 0.5542 0.5131 0<br>p33 0.5642 0.5860 0<br>p34 0.6837 -0.672 0.5726<br>p35 0.5726 -0.3516 0<br>p38 0.5726 -0.3516 0<br>p39 0.5726 -0.3516 0<br>p39 0.5726 -0.3516 0<br>p41 0.7272 0.1381 0<br>p41 0.7272 0.1381 0<br>p41 0.7273 -0.0751 0<br>p43 0.7753 -0.0751 0<br>p44 0<br>p43 0.7272 0.1381 0<br>p43 0.7272 0.1381 0<br>p44 0<br>p43 0.7217 0.1381 0<br>p43 0.7217 0.1381 0<br>p43 0.7217 0.1381 0<br>p44 0<br>p44 0<br>p44 0<br>p44 0.7211 0.1301 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p44 0.7911 0.1301 0<br>p44                                                                                                                                                                                                                                                                                                                                                                                                      | n d        | . 634                         | 0.096       | .004            |
| p32     0.05942     0.212/       p33     0.7803     0.286/     0       p34     0.6848     0.4846     0       p35     0.57910     0.2587     0       p37     0.5726     0.3516     0       p38     0.5726     0.1371     0       p39     0.5726     0.1371     0       p39     0.6437     0.2209     0       p39     0.5726     0.1371     0       p41     0.7572     0.1371     0       p42     0.7993     -0.7531     0       p43     0.7911     0.1371     0       p44     0.7911     0.1301     0       p43     0.7911     0.1301     0       p44     0.7911     0.1301     0       p43     0.7911     0.1301     0       p44     0.7911     0.1301     0       p44     0.7911     0.1301     0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | p32     0.5542     0.5140     0       p33     0.7803     0.2867     0       p35     0.6837     -0.672     0       p36     0.5726     0.5316     0       p37     0.5726     0.5731     0.1476       p38     0.5726     0.1476     0       p39     0.5726     0.1476     0       p39     0.5737     0.2837     0.2587       p31     0.5726     0.3516     0       p33     0.5726     0.1476     0       p41     0.7275     0.1376     0       p43     0.7275     0.1371     0       p44     0.7753     0.1371     0       p43     0.7911     0.1371     0       p44     0.7911     0.13814     0       p43     0.7911     0.1301     0       p44     0.7911     0.1301     0       p44     0.7911     0.1301     0       p44     0.7911     0.1301     0       p50ct Name: C:\PCMethod\Proj     0     0       p1 and Project Name: C:\PCMethod\Proj     0       p1 and Project Natix     (continued)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | r b3       | . 130                         | 0.139       | OTO.            |
| p34 0.6848 0.4846 0<br>p34 0.6848 0.4846 0<br>p35 0.6837 -0.0672 0<br>p38 0.5726 -0.3516 0<br>p38 0.6437 0.2209 0<br>p38 0.6437 0.2209 0<br>p41 0.7573 0.1476 0<br>p42 0.7573 0.1381 0<br>p42 0.7593 -0.7511 0<br>p42 0.7958 -0.2874 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p442 0.7911 0.1301 0<br>p443 0.7911 0<br>p443 0<br>p444 0<br>p44                                                                                                                                                                                                                                                                                                                                                                                                 | p34 0.6849 0.4846 0<br>p34 0.6849 0.4846 0<br>p35 0.6837 -0.0672 0<br>p37 0.6837 -0.0672 0<br>p38 0.6437 0.2587 0<br>p40 0.5726 -0.3516 0<br>p41 0.7573 0.1476 0<br>p42 0.7573 -0.1381 0<br>p42 0.7573 -0.0751 0<br>p42 0.7553 -0.0751 0<br>p42 0.7553 -0.2874 0<br>p43 0.7911 0.1301 0<br>p44 p42 0.7911 0.1301 0<br>p44 p43 0.7911 0.1301 0<br>p44 p44 p44 p44 p44 p44 p44 p44 p44 p44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5 br       | 900 ·                         | 776.        | 040             |
| p34 0.6837 0.687 0.0672 0<br>p35 0.6837 0.0672 0<br>p37 0.5726 0.3516 0<br>p38 0.6437 0.2587 0<br>p39 0.8443 0.1476 0<br>p41 0.7272 0.1381 0<br>p42 0.0958 -0.2874 0<br>p42 0.0958 -0.2874 0<br>p43 0.7553 -0.0751 0<br>p42 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p44 0<br>p42 0.6051 -0.2874 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p44 0<br>p42 0.6051 -0.2874 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p44 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p44 0<br>p44 0<br>p44 0<br>p42 0.7911 0.1301 0<br>p44 0<br>p | p35 0.6837 0.0672 0<br>p35 0.6837 0.0672 0<br>p36 0.7910 0.2587 0<br>p37 0.5726 0.3516 0<br>p39 0.8437 0.2209 0<br>p41 0.7272 0.1381 0<br>p41 0.7553 0.1381 0<br>p42 0.7911 0.1371 0<br>p43 0.7911 0.1301 0<br>p43 0.14000 0<br>p43 0.14000 0<br>p43 0.14000 0<br>p44 0<br>p4 | n n        | 180.                          | 097.        | 040.            |
| p36         0.7910         0.0012           p37         0.5726         -0.2587         0           p38         0.5726         -0.2587         0           p39         0.5726         -0.2587         0           p38         0.5726         -0.2587         0           p39         0.5726         -0.2597         0           p41         0.7277         0.1476         0           p41         0.7273         0.1381         0           p42         0.7757         0.1381         0           p43         0.7751         0         0           p44         0.7751         0         0           p43         0.7998         -0.2874         0           p44         0.7911         0.1301         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | P35 0.7910 0.2587 0<br>p36 0.5726 0.3516 0<br>p38 0.6437 0.2209 0<br>p40 0.7272 0.1381 0<br>p41 0.7253 0.1381 0<br>p42 0.7253 0.1381 0<br>p43 0.7272 0.1381 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p44 0.7911 0.1301 0<br>p43 0.7911 0.1301 0<br>p44 0<br>p4                                                                                                                                                                                                                 | 4 b3       | 500.                          | 0.484       | 600 ·           |
| p37 0.5726 -0.3516 0<br>p38 0.6437 0.2209 0<br>p39 0.6437 0.2209 0<br>p41 0.7272 0.1381 0<br>p41 0.7573 -0.0751 0<br>p42 0.7553 -0.0751 0<br>p43 0.7553 -0.0751 0<br>p44 0 0.7591 0.1301 0<br>p44 0.77911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0<br>p44 0.7911 0.1301 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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0.2209         0           p39         0.6437         0.2209         0           p40         0.7272         0.1476         0           p41         0.7272         0.13516         0           p41         0.7273         0.1376         0           p42         0.7553         0.0751         0           p43         0.7273         0.13814         0           p43         0.7911         0.2874         0           p44         0.7911         0.1301         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           and Project Name: C:\PPOMethod\Proj         0         101301         0           and Project Name: C:\PPOMethod\Proj         0         1         2           otated Factor Matrix (continued)         1         2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            | 101                           | auc 0       | 220.            |
| p38         0.6437         0.2209         0           p39         0.8443         0.1476         0           p41         0.7272         0.1381         0           p41         0.7553         -0.7551         0           p42         0.7553         -0.7551         0           p43         0.7753         -0.7551         0           p44         0.7553         -0.7551         0           p43         0.7998         -0.2874         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0                                                                                                                                                                                                                                                                                                               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0.1476         0           p40         0.7573         0.1381         0           p41         0.7553         -0.7531         0           p42         0.0998         -0.2874         0           p43         0.7911         0.1301         0           p43         0.7911         0.1301         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           ptotect Name:         C:NPQMethod/proj         0           ptated Factor Matrix (continued)         0         0         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 26         | 572                           | 0.351       | .067            |
| p39         0.1476         0           p40         0.7272         0.1381         0           p41         0.7553         0         0           p42         0.7553         0         0           p43         0.7553         0         0           p44         0.7553         0         0           p42         0.0998         -0.2874         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           pt44         0.7911         0.1301         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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0.1381         0           p41         0.7553         -0.0751         0           p42         0.0958         -0.2874         0           p43         0.7511         0.1381         0           p44         0.0751         0         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           ethod2.35         mystudy         0         othethod/proj           and Project Name:         C:\PQMethod\proj         0           otated Factor Matrix (continued)         Factors         I         2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 8 p3       | . 643                         | .220        | .023            |
| p40         0.7272         0.1381         0           p41         0.7553         -0.1381         0           p42         0.0956         -0.2473         0           p43         0.7911         0.1301         0           p43         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           p44         0.7911         0.1301         0           pthod2.35         mystudy         0         ethod2.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | p40     0.7272     0.1381     0       p41     0.7553     -0.0751     0       p43     0.0998     -0.2434     0       p43     0.6051     -0.2874     0       p43     0.7911     0.1301     0       p44     0.7911     0.1301     0       p44     0.7911     0.1301     0       p44     0.7911     0.1301     0       p44     0.7911     0.1301     0       ptotect     Name:     C:NPQMethod/proj       n and Project Name:     C:NPQMethod/proj       otated Factor Matrix     (continued)       ptactors     1     2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 9 p3       | .844                          | .147        | .010            |
| p41 0.7553 -0.0751 0<br>p42 0.0998 -0.2434 0<br>p43 0.6051 -0.2874 0<br>p44 0.1301 0<br>ethod2.35 mystudy<br>and Project Name: C:\POMethod\proj                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | p41         0.7553         -0.0751         0           p43         0.0998         -0.2434         0           p43         0.6051         -0.2434         0           p44         0.7911         0.1301         0           p44         0.7911         0.1401         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0 p4       | .727.                         | .138        | .008            |
| p42 0.0998 -0.2434 0<br>p43 0.6051 -0.2874 0<br>p44 0.7911 0.1301 0<br>ethod2.35 mystudy<br>and Project Name: C:\POMethod\proj                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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mystudy<br>and Project Name: C:\PQMethod\proj<br>otated Factor Matrix (continued)<br>ptated Factors Matrix (continued)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 p4       | .755                          | 0.075       | .003            |
| p43 0.6051 -0.2874 0<br>p44 0.7911 0.1301 0<br>ethod2.35 mystudy<br>and Project Name: C:\PQMethod\proj                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | p43 0.6051 -0.2874 0<br>p44 0.7911 0.1301 0<br>sthod2.35 mystudy<br>and Project Name: C:\PQMethod\proj<br>otated Factor Matrix (continued)<br>otated Factors 1 2<br>1 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 p4:      | .099                          | 0.24        | .032            |
| p44 0.7911 0.1301 0<br>sthod2.35 mystudy<br>and Project Name: C:\PQMethod\proj                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <pre>p44 0.7911 0.1301 0<br/>ethod2.35<br/>and Project Name: C:\PQMethod\proj<br/>and Project Matrix (continued)<br/>otated Factor Matrix (continued)<br/>ptated Factors 1 2</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | p4         | . 605                         | 0.28        | .044            |
| sthod2.35<br>n and Project Name: C:\PQMethod\proj                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <pre>sthod2.35 mystudy n and Project Name: C:\PQMethod\proj nated Factor Matrix (continued) ptated Factors 1 2</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | p4         | 161.                          | .13         | .008            |
| <pre>ethod2.35 mystudy n and Project Name: C:\PQMethod\proj</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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(continued) factors 1 2</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| n and Project Name: C:\PQMethod\proj                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <pre>n and Project Name: C:\PQMethod\proj<br/>otated Factor Matrix (continued)<br/>Factors<br/>1</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ethod2     | 35                            | mystudy     | 1               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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0.0693 0.0005 0.0001 0.0041

-0.3560 0.0421 0.0278 0.0963

0.5001 0.6362 0.6254 0.7378

SORTS 45 p45 46 p46 47 p47 48 p48 pmystudy.lis

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Eigenvalues 24.5323 3.6583 0.1812 % expl.Var. 51 8 0

PQMethod2.35 Path and Project Name: C:\PQMethod\projects/mystudy

Cumulative Communalities Matrix Factors 1 Thru

|        |             | ors 1      | Thru     |                              |
|--------|-------------|------------|----------|------------------------------|
| - 1    | -           | ч          | 7        | ñ                            |
|        |             |            |          |                              |
| e      |             | m.         |          | 5                            |
| 2      |             | . 492      | . 662    | .671                         |
| e      |             | .27        | .43      | .446                         |
| 4      |             | . 713      | . 730    | .730                         |
| ŝ      |             | . 653      | . 662    | . 662                        |
| 9      |             | .734       | . 758    | . 758                        |
| 5      |             |            | LTL.     | . 73                         |
| 8      |             | . 556      | . 592    | . 592                        |
| 9      |             | . 693      | . 693    | . 693                        |
|        | p10         | 5          | . 556    | 556                          |
|        | -           | .079       | .337     | .358                         |
|        |             | . 690      | . 693    | . 69                         |
|        | H           | .578       | . 626    | . 626                        |
|        | H           | .720       | .745     | .745.                        |
|        | -           | . 525      | . 532    | .532                         |
|        |             | . 551      | . 641    | . 643                        |
|        | H           | . 690      | . 695    | . 695.                       |
|        | -           | .619       | .802     | .811                         |
|        | -           | .569       | . 650    | 65                           |
|        | N           | .278       | .456     | .466                         |
|        | N           | .210       | .448     | .465                         |
|        | N           | .529       | . 558    | . 558                        |
|        | N           | .551       | .551     | . 551:                       |
|        | N           | .618       | .702     | .704                         |
|        | N           | . 680      | . 684    | . 684                        |
|        | N           | .469       | .472     | .472                         |
| 27     | p27         | 0.5798     | 0.6189   | 0.6194                       |
|        | N           | . 657      | .823     | .831                         |
|        | N           | .790       | .836     | .836                         |
|        | m           | .402       | .411     | .411                         |
|        | m           | . 534      | . 552    | . 552                        |
|        | m           | .428       | . 690    | 0TL.                         |
|        | p33         | 9.         | . 690    | . 692                        |
|        | m           | .469       | .703     | .719                         |
|        | m           | .467       | .471     | .471                         |
|        | m           | . 625      | . 692    | . 693                        |
|        | m           | m.         | .451     | .456                         |
|        | m           | 414        | .46      | .463                         |
|        | m           | .712       | .734     | .734                         |
|        | p40         | . 528      | . 547    | . 547                        |
|        |             | .570       | .576.    | .576                         |
| 42     | p42         | 0.         | 0.0692   | 70                           |
|        |             | .366.      | .448     | 4.                           |
| 44     | p44         | . 625      | . 642    | . 642                        |
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| POMO   | ethod2.35   | 1.0        | mystudy  | unionto lumetudu             |
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| Cumul. | ative Commu | nalities M | at       | tinued)                      |
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| 0.3911 0.3919 0.3<br>0.5443 0.5536 0.5<br>. 51 59 | p46      | 4048 | 0.4065 | .40  |
|---------------------------------------------------|----------|------|--------|------|
| p48 0.5443 0.5536 0.5<br>è expl.Var. 51 59        | p47      | 3911 | 0.3919 | . 39 |
| xpl.Var. 51 59                                    | p48      | 5443 | 0.5536 | 5    |
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| 0.7982X<br>0.1713<br>0.5714<br>0.5744<br>0.5744<br>0.5744<br>0.6686X<br>0.46522X<br>0.46522X<br>0.4652<br>0.4652<br>0.7704X<br>0.7104X<br>0.7104X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.77033<br>0.4655<br>0.4656<br>0.4656<br>0.4656<br>0.4656<br>0.4765<br>0.1669<br>0.7703<br>0.1669<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7703<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.7503<br>0.                                                                                                                                                                                                                                                                       |          | ŧ.      |             |
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| 0.3025<br>0.5744<br>0.5744<br>0.5744<br>0.5744<br>0.5744<br>0.5686x<br>0.465222<br>0.6148x<br>0.6865<br>0.70352<br>0.7035<br>0.7148x<br>0.7148x<br>0.7148x<br>0.77352<br>0.77052<br>0.77052<br>0.77052<br>0.77052<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.70053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.75053<br>0.750 | 0.       | .798    | .047        |
| 0.1713<br>0.5820<br>0.5820<br>0.5828<br>0.4584<br>0.4584<br>0.4586<br>0.4586<br>0.4586<br>0.71048<br>0.71048<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.77058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058<br>0.75058 | a        | .302    | .761        |
| 0.5820<br>0.5744<br>0.5744<br>0.5744<br>0.6686<br>0.4695<br>0.4686<br>0.4686<br>0.5181X<br>0.5181X<br>0.5181X<br>0.5181X<br>0.5181X<br>0.5181X<br>0.5182X<br>0.65287X<br>0.65287X<br>0.662832X<br>0.662832X<br>0.662832X<br>0.662832X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.66287X<br>0.662                                                                                                                                                                                                                                                                                                                                                                     | . 0      | .171    | .645        |
| 0.5744<br>0.7684X<br>0.4652X<br>0.46552X<br>0.46552X<br>0.46552X<br>0.46552X<br>0.4655<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7704X<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7705<br>0.7755<br>0.7755<br>0.7555<br>0.7555<br>0.7555<br>0.7555<br>0.7555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.75555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.755555<br>0.7555555<br>0.755555<br>0.755555<br>0.7555555<br>0.755555<br>0.7555555<br>0.7555555<br>0.7555555<br>0.75555555<br>0.7555555<br>0.75555555<br>0.75555555<br>0.75555555<br>0.75555555<br>0.75555555<br>0.75555555<br>0.75555555<br>0.75555555<br>0.755555555<br>0.75555555<br>0.7555555555<br>0.7555555555555555555555555555555555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | . 0      | 582     | .614        |
| 0.76845<br>0.8522X<br>0.8522X<br>0.4388<br>0.4388<br>0.4388<br>0.7635X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181X<br>0.7181                                                                                                                                                                                                                                                                                                                           | 4 6      | 57.0    | 564         |
| 0. 4695<br>0. 4695<br>0. 4686<br>0. 4388<br>0. 51348<br>0. 51348<br>0. 51348<br>0. 51348<br>0. 51348<br>0. 5455<br>0. 6456<br>0. 64458<br>0. 4765<br>0. 4565<br>0. 45655<br>0. 45655<br>0. 45655<br>0.                                                                                                                                                                                                                                                                                                                              | 2 5      | 768     | 305         |
| 0.4552X<br>0.4552X<br>0.4555<br>0.4555<br>0.6686X<br>0.7320X<br>0.7320X<br>0.7320X<br>0.7325X<br>0.7325X<br>0.7105X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.7505X<br>0.750                                                                                                                                                                                                                                                                                                                           | 2        |         |             |
| 0.4656<br>0.46865<br>0.46865<br>0.46865<br>0.46865<br>0.76355<br>0.763557<br>0.714815<br>0.7714815<br>0.7714815<br>0.7714815<br>0.7714815<br>0.77055<br>0.887775<br>0.887775<br>0.887775<br>0.4420<br>0.4426<br>0.4426<br>0.4426<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.45655<br>0.45655<br>0.45655<br>0.45655<br>0.456555<br>0.456555<br>0.45655555555555555555555555555555555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ۵.       | 768.    | 100.        |
| 0.6686X<br>-0.04388<br>-0.6148X<br>0.6148X<br>0.5181X<br>0.5181X<br>0.5181X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.77053<br>0.75567X<br>0.4656<br>0.4656<br>0.4656<br>0.77053<br>0.75645X<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75705<br>0.75755<br>0.75705<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.75755<br>0.757555<br>0.757555<br>0.7575555<br>0.7575555<br>0.757555<br>0.757555<br>0.757555<br>0.75755555<br>0.7575555<br>0.7575555555<br>0.75755555<br>0.7575555<br>0.7575555555<br>0.757555555<br>0.7575555555555<br>0.7575555555555555555555555555555555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ω.       | .469    | . 601       |
| -0.4388<br>-0.61401<br>0.51401<br>0.71320X<br>0.71281X<br>0.71281X<br>0.71281X<br>0.7705X<br>0.68777<br>0.1609<br>0.4656<br>0.4420<br>0.4465<br>0.4420<br>0.4465<br>0.4420<br>0.4465<br>0.4420<br>0.4465<br>0.4465<br>0.4465<br>0.4465<br>0.4465<br>0.4465<br>0.4465<br>0.6424X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X<br>0.65567X0.5557X<br>0.6557X<br>0.6557X<br>0.6557X0.5557X<br>0.6557X<br>0.65577X0.5557X<br>0.65577X<br>0.65577X0.5557X<br>0.65577X0.5557X<br>0.65                                                                                             | ρ.       | .668    | .481        |
| -0.0801<br>0.5181X<br>0.5181X<br>0.5181X<br>0.5181X<br>0.5704X<br>0.5704X<br>0.64555<br>0.0703<br>0.0703<br>0.0703<br>0.0703<br>0.1609<br>0.4426<br>0.64245X<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.44265<br>0.54597<br>0.54597<br>0.565343<br>0.565343<br>0.565343<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.555577<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.565567<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.5555777<br>0.5555777<br>0.5555777<br>0.5555777<br>0.55557777777777                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1a 0     | .438    | . 596       |
| 0.6148X<br>0.7320X<br>0.7320X<br>0.7320X<br>0.7320X<br>0.6928X<br>0.69287<br>0.69287<br>0.1609<br>0.1609<br>0.1609<br>0.4705X<br>0.4703<br>0.4676<br>0.4832<br>0.5645X<br>0.4623<br>0.5645X<br>0.4632<br>0.4642<br>0.5677<br>0.4634<br>0.5677<br>0.4634<br>0.55677<br>0.4634<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.555677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.55677<br>0.556777<br>0.556777<br>0.556777<br>0.55777<br>0.557777<br>0.55777777777777777                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 01     | .080    | .589        |
| 0.71220X<br>7704X<br>0.77181X<br>0.77181X<br>0.77181X<br>0.77181X<br>0.6928X<br>0.6928X<br>0.6822X<br>0.6822X<br>0.6632<br>0.4765<br>0.4656<br>0.4656<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4656<br>0.4765<br>0.4765<br>0.4765<br>0.4656<br>0.4765<br>0.4663<br>0.4765<br>0.4663<br>0.4765<br>0.4663<br>0.4765<br>0.4663<br>0.4765<br>0.4663<br>0.4765<br>0.4663<br>0.4765<br>0.4665<br>0.4665<br>0.4765<br>0.4665<br>0.4665<br>0.4665<br>0.4665<br>0.4665<br>0.4665<br>0.4665<br>0.4665<br>0.4665<br>0.4765<br>0.4665<br>0.4655<br>0.4655<br>0.4655<br>0.4765<br>0.4655<br>0.4655<br>0.4655<br>0.4655<br>0.4765<br>0.4765<br>0.4655<br>0.4655<br>0.4765<br>0.2645<br>0.7565<br>0.4565<br>0.4565<br>0.4565<br>0.4765<br>0.5655<br>0.4565<br>0.4765<br>0.4765<br>0.5655<br>0.4765<br>0.4765<br>0.4765<br>0.5655<br>0.4765<br>0.4765<br>0.5655<br>0.4765<br>0.5655<br>0.4765<br>0.5655<br>0.4765<br>0.5565<br>0.4765<br>0.4765<br>0.5565<br>0.4765<br>0.5565<br>0.4765<br>0.5565<br>0.4765<br>0.5565<br>0.4765<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5555<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.5565<br>0.55655<br>0.55655<br>0.55655<br>0.55655<br>0.556555<br>0.5565555<br>0.5565555555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 14       | 614     | 548         |
| 0.5181X<br>0.5181X<br>0.5181X<br>0.5181X<br>0.6928X<br>0.6928X<br>0.7635X<br>0.7635X<br>0.7635X<br>0.7635X<br>0.7635X<br>0.7632X<br>0.4705<br>0.44245X<br>0.4765<br>0.44245X<br>0.88450X<br>0.88450X<br>0.4909<br>0.4909<br>0.84534X<br>0.7534X<br>0.7534X<br>0.7534X<br>0.7534X<br>0.7534X<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75345<br>0.75355<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.745555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.74555<br>0.745555<br>0.745555<br>0.745555<br>0.745555<br>0.745555<br>0.7555555<br>0.7555555<br>0.755555555<br>0.75555555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | 722     | 100         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 1 1    | C96.    | 1000        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10 5     | 010     |             |
| 0.7704X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.7705X<br>0.4656<br>0.4656<br>0.4656<br>0.5045X<br>0.68324X<br>0.5645X<br>0.83254<br>0.83254<br>0.83254<br>0.83254<br>0.83254<br>0.83254<br>0.84503<br>0.65564<br>0.65564<br>0.65564<br>0.65564<br>0.65563<br>0.65563<br>0.66563<br>0.66563<br>0.66563<br>0.66563<br>0.66563<br>0.66563<br>0.66563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.665563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.655563<br>0.6555563<br>0.6555563<br>0.6555563<br>0.6555563<br>0.6555563<br>0.6555557<br>0.6555557<br>0.6555557<br>0.5555575<br>0.5555575<br>0.5555575<br>0.5555575<br>0.5555575<br>0.5555575<br>0.5555555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0        | 10.     | 2000.       |
| 0.6928X<br>0.775X<br>0.7877X<br>0.7877X<br>0.7605X<br>0.4665<br>0.4656<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.48324X<br>0.4909<br>0.4909<br>0.4645X<br>0.4645X<br>0.4633<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.45653<br>0.55653<br>0.45653<br>0.55653<br>0.45653<br>0.456553<br>0.456553<br>0.456553<br>0.456553<br>0.455553<br>0.45553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.455553<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.5555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.5555737<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573<br>0.555573757575757575757575757575757575757                                                                                                                                                                                                                                                                                                           | d 9      | LL.     | .218        |
| 0.8877X<br>0.1705X<br>0.1705X<br>0.1705X<br>0.1705X<br>0.46450<br>0.4426<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4765<br>0.4909<br>0.4909<br>0.4909<br>0.4909<br>0.45567X<br>0.4567<br>0.4567<br>0.4567<br>0.4567<br>0.4567<br>0.4567<br>0.4567<br>0.4567<br>0.4567<br>0.55675<br>0.4567<br>0.55675<br>0.55675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.5675<br>0.55675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.55567575<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.555675<br>0.55567575<br>0.555675757575<br>0.555675757575757575757575757575757575757                                                                                                                                                                                                                                                                                                                                            | d L      | . 692   | .449        |
| 0.7705X<br>0.1609<br>0.1609<br>0.4656<br>0.4656<br>0.4420<br>0.4420<br>0.4420<br>0.4420<br>0.4324X<br>0.4324X<br>0.49257X<br>0.4945X<br>0.4945X<br>0.4633<br>0.5567X<br>0.4633<br>0.5567X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55567X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X                                                                            | 8 p1     | .887    | .152        |
| 0.1609<br>0.0703<br>0.0703<br>0.6455<br>0.6455<br>0.6452323<br>0.64265<br>0.64255<br>0.8335575<br>0.8335575<br>0.8335575<br>0.8335575<br>0.84505<br>0.84505<br>0.4633<br>0.64245<br>0.6556743<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.655673<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.7555737<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.755573<br>0.7555737<br>0.7555737<br>0.7555737<br>0.7555773<br>0.7555773<br>0.7557737<br>0.755777777777777777777777777777777777                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | - G      | 022.    | .236        |
| 0.0693<br>0.4656<br>0.4656<br>0.4420<br>0.6832X<br>0.5045X<br>0.5045X<br>0.8325<br>0.8305X<br>0.8305X<br>0.8305X<br>0.8335X<br>0.8335X<br>0.83374<br>0.83374<br>0.7909X<br>0.83374<br>0.7909X<br>0.65567X<br>0.65567X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6656X<br>0.6656X<br>0.6656X<br>0.6656X<br>0.6656X<br>0.6655X<br>0.6655X<br>0.6633<br>0.6655X<br>0.6633<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6655X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X                                                                                                                                                                                                                                                                                                                            | 10       | 160     | 663         |
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| 0.5455<br>0.5645<br>0.4426<br>0.5832X<br>0.4765<br>0.4765<br>0.4305<br>0.4305<br>0.4305<br>0.4305<br>0.4305<br>0.45567X<br>0.45567X<br>0.45567<br>0.4545X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.56533<br>155567<br>0.5459X<br>0.56553<br>0.565533<br>0.565533<br>0.565533<br>0.565533<br>0.565533<br>0.565553<br>0.565553<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.56555<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.55557<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.555577<br>0.5555777<br>0.5555777<br>0.555577777<br>0.5555777777777777777777777777777777777                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Zd T     | 20.     |             |
| 0.5645X<br>0.5645X<br>0.4420<br>0.5045X<br>0.4320<br>0.4324X<br>0.4324X<br>0.83054X<br>0.83054X<br>0.83054X<br>0.4945X<br>0.4645X<br>0.4633<br>0.2374<br>0.4633<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.56556X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55557X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55577X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.557777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.55777X<br>0.557777X<br>0.55777X<br>0                                                                            | 2 p2     | .465    | 9/6.        |
| 0.4450<br>0.6832X<br>0.6832X<br>0.4765<br>0.4765<br>0.8934X<br>0.8305X<br>0.83057X<br>0.84507<br>0.84507<br>0.84507<br>0.4633<br>0.6424X<br>0.65567<br>0.65567<br>0.65567<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.6633<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3 p2     | .564    | .470        |
| 0.6832X<br>0.5045X<br>0.5745X<br>0.8934X<br>0.8934X<br>0.8934X<br>0.8305X<br>0.8397X<br>0.8397X<br>0.8397X<br>0.8397X<br>0.4633<br>0.4633<br>0.4633<br>0.6554X<br>0.6554X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.6555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0.5555X<br>0 | 4 p2     | .442    | F07.        |
| 0.5045X<br>0.4765<br>0.4765<br>0.83053<br>0.83053<br>0.83373<br>0.4909<br>0.4945X<br>0.46453<br>0.46453<br>0.46445X<br>0.46445X<br>0.46445X<br>0.46445X<br>0.46445X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.56553333<br>0.56553333<br>0.56553333<br>0.5655333<br>0.5655333<br>0.5655333<br>0.565533<br>0.565533<br>0.565533<br>0.565533<br>0.565533<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555553<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.555555<br>0.5555555<br>0.5555555<br>0.5555555<br>0.5555555<br>0.5555555<br>0.5555555<br>0.55555555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5 p2     | . 683   | .451        |
| 0.4765<br>0.8934X<br>0.8934X<br>0.8934X<br>0.893557<br>0.4909<br>0.4945X<br>0.463374<br>0.46354X<br>0.46324X<br>0.46324X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.693                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6 p2     | .504    | .455        |
| 0.8934X<br>0.8934X<br>0.8305X<br>0.4909<br>0.7909X<br>0.7909X<br>0.7909X<br>0.7444X<br>0.4633<br>0.2374<br>0.6556X<br>0.6556X<br>0.5459X<br>0.5459X<br>0.6556X<br>0.5459X<br>0.5459X<br>0.6633<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CC 1     | 476     | 618         |
| 0.5567X<br>0.5567X<br>0.5567X<br>0.5567X<br>0.83909<br>0.8397X<br>0.7909X<br>0.79097X<br>0.79097X<br>0.79097X<br>0.4633<br>0.65567<br>0.65567<br>0.65567<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.54597<br>0.55557<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55577<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.55777<br>0.57777<br>0.57777<br>0.57777<br>0.57777<br>0.577777<br>0.577777<br>0.57777777<br>0.57777777777                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 0      | 000     | 101         |
| 0.55675<br>0.4909<br>0.4909<br>0.4909<br>0.84505<br>0.46455<br>0.46455<br>0.46453<br>0.46453<br>0.54597<br>0.55345<br>0.55345<br>0.55345<br>0.555345<br>0.555345<br>0.555345<br>0.555345<br>0.55555<br>0.5653<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20 0     | · · · · | 101.        |
| 0.5567X<br>0.4909<br>0.4909X<br>0.7909X<br>0.49450X<br>0.49450X<br>0.46450X<br>0.46450X<br>0.6554X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6633<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9 p2     | .830    | .3/1        |
| 0.4509<br>0.79397X<br>0.79397X<br>0.450X<br>0.4645X<br>0.464374<br>0.2374<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.693                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0 p3     | . 556   | .308        |
| 0.8397X<br>0.7909X<br>0.7909X<br>0.4945X<br>0.4945X<br>0.463374<br>0.463374<br>0.54543<br>0.6556X<br>0.6556X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.75575X<br>0.7557575                                                                            | 1 p3     | .490    | .547        |
| 0.7909X<br>0.8450X<br>0.4633<br>0.4633<br>0.2374<br>0.6524X<br>0.6556X<br>0.6556X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.693                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2 p3     | .839    | .011        |
| 0.8450X<br>0.4945X<br>0.4645X<br>0.46433<br>0.2374<br>0.5424X<br>0.5534X<br>0.5554X<br>0.5459X<br>0.5459X<br>0.6633                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 50 5     | 790     | 252         |
| 0.4945x<br>0.4633<br>0.4633<br>0.2374<br>0.2374<br>0.75344x<br>0.6556x<br>0.6556x<br>0.5459x<br>0.5459x<br>0.5459x<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 24 1     | BAS     | 050         |
| 0.4633<br>0.2374<br>0.2374<br>0.7534X<br>0.7534X<br>0.6556X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X<br>0.5459X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          | STON.   | 195         |
| 0.4853<br>0.424X<br>0.6424X<br>0.7534X<br>0.6556X<br>0.6556X<br>0.5459X<br>0.5459X<br>-0.0693                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2 2      |         |             |
| 0.2374<br>0.6524X<br>0.75328X<br>0.6556X<br>0.5459X<br>-0.0693<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6 p3     | .463    | C 20 .      |
| 0.6424X<br>0.7534X<br>0.6556X<br>0.6556X<br>0.6556X<br>0.5459X<br>-0.0693<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7 p3     | .237    | . 631       |
| 0.7534X<br>0.6556X<br>0.5459X<br>-0.0693<br>.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8 p3     | .642    | .218        |
| 0.6556X<br>0.5459X<br>-0.0693<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 9 p3     | .753    | .39         |
| 0.5459X<br>-0.0693<br>35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 p4     | . 655   | .331        |
| -0.0693                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1 04     | .545    | .515        |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Pu c     | 069     | 255         |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1        |         |             |
| 00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |         | much red re |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Methodz. |         |             |

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PAGE 9 May 15 15 PAGE 10 May 15 15

Page 5

Loadings

Factor Matrix with an X Indicating a Defining Sort (continued)

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|       | X       |         | X      |        |         | 11.4.5  | 12101     | ~           |
|-------|---------|---------|--------|--------|---------|---------|-----------|-------------|
| 8     | 0.5972X | 0.3766  | 0.5910 | 0.3511 | 0.3557  | 0.3704  | 22        | mystudy     |
| 1     | 0.3007  | 0.7007X | 0.1779 | 5245   | 0.5072X | 0.6378X | 36        |             |
| QSORT | p43     | p44     | p45    | p46    | p47     | p48     | expl.Var. | QMethod2.35 |
| DS(   | 43      | 44      | 5      | 96     | 17      | 18      | de        | MG          |

PQMethod2.35 Path and Project Name: C:\PQMethod\projects/mystudy

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| $ \left[ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SOI  | ЗT    | MEAN | ST.DEV. |
| $ \begin{array}{c} 2 & 2 \\ 2 & 2 \\ 3 & 2 \\ 5 & 2 \\ 5 & 2 \\ 5 & 2 \\ 5 & 2 \\ 5 & 2 \\ 6 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 \\ 7 & 2 $                                                                                                                                                                                                                                                                                                                                                                                                               |      | 10    | 00.  | 2.26    |
| $ \left( \begin{array}{c} 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 $                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      | 2 6   | 00.0 | 07.2    |
| $ \begin{smallmatrix} 5 & 5 \\ 6 & 7 \\ 7 & 7 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 1111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 111 \\ 7 & 11$                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | 40    | 00.  | 2.26    |
| $ \begin{smallmatrix} 5 & 56 \\ 7 & 77 \\ 1 & 111 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 2 & 122 \\ 3 & 113 \\ 3 & 113 \\ 3 & 113 \\ 3 & 113 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 & 121 \\ 1 &$                                                                                                                                                                                                                                                                                                                                                                                                                                                           | S    | 50    | .00  | 2.26    |
| $ \begin{array}{c} 7 & 7 \\ 7 & 7 \\ 8 & 9 \\ 9 & 9 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 2 & 112 \\ 3 & 112 \\ 4 & 114 \\ 3 & 112 \\ 5 & 115 \\ 5 & 115 \\ 6 & 116 \\ 1 & 111 \\ 1 & 112 \\ 1 & 111 \\ 1 & 112 \\ 1 & 111 \\ 1 & 112 \\ 1 & 111 \\ 1 & 112 \\ 1 & 111 \\ 1 & 112 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 111 \\ 1 & 11$                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9    | 90    | .00  | 2.26    |
| 8         P8         0.000         2.26           9         P9         0.000         2.26           1         P11         0.000         2.26           2         P15         0.000         2.26           5         P15         0.000         2.26           6         P16         0.000         2.26           7         P17         0.000         2.26           8         P18         0.000         2.26           9         P19         0.000         2.26           7         P17         0.000         2.26           9         P23         0.000         2.26           7         P24         0.000         2.26           8         P23         0.000         2.26           9         P23         0.000         2.26           9         P23         0.000         2.26           9         P23         0.000         2.26           9         P33         0.000         2.26           9         P33         0.000         2.26           9         P33         0.000         2.26           9         P34         0.000 <td>1</td> <td>10</td> <td>.00</td> <td>2.26</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1    | 10    | .00  | 2.26    |
| $ \begin{array}{c} 9 \\ 9 \\ 1 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8    | 80    | .00  | 2.26    |
| $ \begin{array}{c} 0 & 0 & 0 \\ 1 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 \\ 3 & 0 & 13 \\ 3 & 0 & 13 \\ 3 & 0 & 13 \\ 3 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 &$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6    | 5     | .00  | 2.26    |
| 1 $p_{11}$ 0.000       2.25         5 $p_{115}$ 0.000       2.26         6 $p_{115}$ 0.000       2.25         7 $p_{116}$ 0.000       2.25         9 $p_{129}$ 0.000       2.26         9 $p_{129}$ 0.000       2.25         9 $p_{219}$ 0.000       2.25         5 $p_{229}$ 0.000       2.26         7 $p_{229}$ 0.000       2.25         5 $p_{229}$ 0.000       2.25         6 $p_{23}$ 0.000       2.26         7 $p_{229}$ 0.000       2.25         6 $p_{23}$ 0.000       2.25         7 $p_{23}$ 0.000       2.26         8 $p_{23}$ 0.000       2.25         6 $p_{33}$ 0.000       2.25         7 $p_{33}$ 0.000       2.26         8 $p_{33}$ 0.000       2.25         7 $p_{33}$ 0.000       2.25         8 $p_{33}$ 0.000       2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0    | -     | 00.  | 2.26    |
| $ \begin{array}{c} 1 \\ 2 \\ 3 \\ 5 \\ 1 \\ 5 \\ 1 \\ 5 \\ 1 \\ 5 \\ 1 \\ 5 \\ 1 \\ 5 \\ 1 \\ 1$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | - (  | - I + | 00.  | 92.2    |
| $ \begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ve   | -1 -  | 000  | 07.7    |
| $ \begin{smallmatrix} 5 & 12.5 \\ 6 & 116 \\ 8 & 119 \\ 1 & 121 \\ 1 & 1221 \\ 1 & 1221 \\ 1 & 1221 \\ 2 & 1226 \\ 3 & 1225 \\ 5 & 1225 \\ 6 & 1226 \\ 6 & 1226 \\ 6 & 1226 \\ 6 & 1226 \\ 6 & 1226 \\ 6 & 1226 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 \\ 1 & 1231 $                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2 4  | 4 -   | 000  | 2.26    |
| 7         p117         0.000         2.26           9         p138         0.000         2.26           9         p138         0.000         2.26           1         p21         0.000         2.26           2         p23         p223         0.000         2.26           3         p23         0.000         2.26         2.26           5         p26         0.000         2.26         2.26           6         p23         0.000         2.26         2.26           7         p24         0.000         2.26         2.26           9         p29         0.000         2.26         2.26           9         p23         0.000         2.26         2.26           9         p23         0.000         2.26         2.26           9         p33         0.000         2.26         2.26           7         p33         0.000         2.26         2.26           8         p33         0.000         2.26         2.26           9         p34         0.000         2.26         2.26           1         p41         0.000         2.26         2.26 <td></td> <td>1</td> <td>000.</td> <td>2.26</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      | 1     | 000. | 2.26    |
| $ \begin{array}{c} 7 & 7 & 7 \\ 7 & 7 & 7 \\ 8 & 7 & 919 \\ 1 & 921 \\ 1 & 921 \\ 2 & 7 & 922 \\ 2 & 7 & 922 \\ 3 & 7 & 922 \\ 4 & 7 & 226 \\ 5 & 922 \\ 5 & 922 \\ 6 & 922 \\ 7 & 923 \\ 7 & 923 \\ 1 & 931 \\ 2 & 933 \\ 2 & 933 \\ 2 & 933 \\ 2 & 933 \\ 2 & 933 \\ 2 & 933 \\ 2 & 933 \\ 2 & 9143 \\ 2 & 0.000 \\ 2 & 226 \\ 1 & 914 \\ 2 & 0.000 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 226 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 26 \\ 2 & 2 & 2 \\ 2 & 2 & 2 \\ 2 & 2 & 2 \\ 2 & 2 &$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0    | -     | 00.  | 2.26    |
| 8         \$18         0.000         2.25           9         \$19         0.000         2.25           1         \$23         0.000         2.25           2         \$23         0.000         2.25           5         \$23         0.000         2.25           6         \$23         0.000         2.25           7         \$25         0.000         2.25           8         \$23         0.000         2.25           9         \$23         0.000         2.25           8         \$23         0.000         2.25           9         \$23         0.000         2.25           9         \$23         0.000         2.25           9         \$23         0.000         2.25           8         \$23         0.000         2.25           6         \$33         0.000         2.25           8         \$33         0.000         2.25           9         \$33         0.000         2.25           9         \$34         0.000         2.25           9         \$34         0.000         2.25           9         \$34         0.000 </td <td>F</td> <td>-</td> <td>00.</td> <td>2.26</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | F    | -     | 00.  | 2.26    |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8    | -     | .00  | 2.26    |
| 0         p20         0.000         2.25           1         p21         0.000         2.25           3         p25         0.000         2.26           5         p25         0.000         2.26           6         p26         0.000         2.26           7         p27         0.000         2.26           9         p29         0.000         2.26           1         p21         0.000         2.26           9         p29         0.000         2.26           1         p31         0.000         2.26           9         p33         0.000         2.26           1         p31         0.000         2.26           7         p33         0.000         2.26           8         p33         0.000         2.26           8         p33         0.000         2.26           7         p33         0.000         2.26           9         p443         0.000         2.26           1         p44         0.000         2.26           2         p100         2.26         2.26           9         p44         0.000<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5    | -     | 00.  | 2.26    |
| $ \begin{smallmatrix} 1 & p21 \\ 2 & p22 \\ 2 & p22 \\ 5 & p22 \\ 5 & p22 \\ 5 & p22 \\ 7 & p24 \\ 7 & p24 \\ 7 & p24 \\ 7 & p27 \\ 7 & p27 \\ 9 & p28 \\ 1 & p28 \\ 1 & p31 \\ 1 & p31 \\ 1 & p31 \\ 2 & p32 \\ 2 & p32 \\ 2 & p32 \\ 2 & p32 \\ 2 & p33 \\ 2 & p33 \\ 2 & p33 \\ 2 & p33 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & 26 \\ 2 & p44 \\ 2 & 0.000 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 26 \\ 2 & 2 \\ 2 & 2 \\ 2$                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0    | N     | .00  | 2.26    |
| 2 222<br>3 222<br>5 225<br>5 225<br>6 225<br>7 226<br>8 223<br>8 223<br>8 223<br>9 229<br>9 229<br>9 229<br>9 229<br>9 229<br>9 229<br>9 229<br>9 229<br>9 229<br>1 2 26<br>9 229<br>9 229<br>9 229<br>9 2226<br>9 2                                                                                                                                                     | -    | N     | 00.  | 2.26    |
| 3 223<br>4 224<br>5 226<br>6 226<br>7 227<br>8 228<br>9 228<br>9 228<br>9 228<br>1 231<br>1 231<br>1 231<br>1 231<br>1 232<br>1 332<br>1 332<br>1 332<br>1 332<br>1 33<br>1 3<br>1                                                                                                          | N    | N     | 00.  | 2.26    |
| 4         p24         0.000         2.22           5         p25         0.000         2.226           7         p28         0.000         2.226           8         p29         0.000         2.226           1         p31         0.000         2.226           1         p31         0.000         2.226           1         p31         0.000         2.226           2         p33         0.000         2.226           3         p334         0.000         2.226           5         p335         0.000         2.226           6         p34         p34         0.000         2.226           7         p335         0.000         2.226         2.26           8         p338         0.000         2.226         2.26           9         p34         0.000         2.226         2.26           9         p443         0.000         2.26         2.26           1         p41         0.000         2.26         2.26           3         p443         0.000         2.26         2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3    | NI    | 00.  | 2.26    |
| 5 p25<br>6 p26<br>7 p27<br>9 p28<br>9 p28<br>9 p29<br>9 p31<br>1                                                                                  | 4    | N     | 00.  | 2.20    |
| 6         p26         0.000         2.22           7         p27         0.000         2.226           9         p29         0.000         2.226           1         p31         0.000         2.226           1         p31         0.000         2.226           1         p31         0.000         2.226           3         p33         0.000         2.226           5         p335         0.000         2.226           6         p335         0.000         2.226           7         p337         0.000         2.226           8         p336         0.000         2.226           9         p337         0.000         2.226           9         p349         0.000         2.226           9         p349         0.000         2.226           1         p41         0.000         2.226           3         p443         0.000         2.226           3         p443         0.000         2.226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5    | N     | 00.  | 2.26    |
| 7 227<br>9 228<br>9 228<br>1 230<br>1 231<br>1 231<br>2 226<br>1 232<br>2 232<br>2 236<br>1 232<br>2 232<br>1 232<br>2 236<br>1 2 226<br>2 2 26<br>2 2                                                                                                                                                       | 0    | N     | 00.  | 2.20    |
| 8         P28         0.000         2.25           0         P31         0.000         2.256           1         P31         0.000         2.26           2         P32         0.000         2.26           3         P33         0.000         2.26           4         P34         0.000         2.26           5         P35         0.000         2.26           6         P35         0.000         2.26           7         P34         0.000         2.26           8         P38         0.000         2.26           9         P39         0.000         2.26           9         P34         0.000         2.26           9         P41         0.000         2.26           1         P41         0.000         2.26           2         P442         0.000         2.26           4         P44         0.000         2.26           4         P44         0.000         2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -    | N     | 00.  | 2.26    |
| y p29<br>p29<br>p229<br>p229<br>p31<br>p31<br>p31<br>p31<br>p32<br>p33<br>p33<br>p33<br>p33<br>p33<br>p33<br>p33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      | NO    | 00.  | 2.20    |
| 1         p30         0.000         2.26           1         p31         0.000         2.26           3         p33         0.000         2.26           5         p35         0.000         2.26           6         p35         0.000         2.26           7         p37         0.000         2.26           8         p36         0.000         2.26           9         p37         0.000         2.26           9         p37         0.000         2.26           9         p38         0.000         2.26           9         p39         0.000         2.26           9         p39         0.000         2.26           9         p39         0.000         2.26           9         p43         0.000         2.26           1         p44         0.000         2.26           3         p443         0.000         2.26           3         p443         0.000         2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5 0  | NO    | 00.  | 02.2    |
| 1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      | 30    | 00.  | 01.10   |
| 3         334         0.000         2.256           4         334         0.000         2.266           5         335         0.000         2.266           7         936         0.000         2.266           7         936         0.000         2.266           9         938         0.000         2.266           9         939         0.000         2.266           9         938         0.000         2.266           9         939         0.000         2.266           9         939         0.000         2.266           9         943         0.000         2.266           1         944         0.000         2.266           4         944         0.000         2.266                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      | 0.0   |      | 02.2    |
| 5     \$734     0.000     2.26       5     \$735     0.000     2.26       7     \$737     0.000     2.26       8     \$738     0.000     2.26       9     \$938     0.000     2.26       9     \$938     0.000     2.26       9     \$938     0.000     2.26       9     \$938     0.000     2.26       1     \$941     0.000     2.26       2     \$943     0.000     2.26       3     \$943     0.000     2.26       4     \$944     0.000     2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10   | 00    |      | 30.0    |
| 5         935         0.000         2.256           6         935         0.000         2.266           7         937         0.000         2.266           8         938         0.000         2.266           9         938         0.000         2.266           9         939         0.000         2.266           1         941         0.000         2.266           2         943         0.000         2.266           3         943         0.000         2.266           3         943         0.000         2.266                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2 4  | 20    |      | 90000   |
| 5         933         0.000         2.256           7         938         0.000         2.266           9         938         0.000         2.266           9         939         0.000         2.266           9         939         0.000         2.266           1         10.000         2.266         2.266           1         10.000         2.266         2.266           1         141         0.000         2.266           2         143         0.000         2.266           3         143         0.000         2.266           3         143         0.000         2.266                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | r u  | 20    |      | 200     |
| 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | n u  | 2 0   |      | 94.4    |
| 9         938         0.000         2.26           9         939         0.000         2.26           0         940         0.000         2.26           1         941         0.000         2.26           2         942         0.000         2.26           3         943         0.000         2.26           4         943         0.000         2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20   | 7 ("  | 00   | 2.26    |
| 9 939<br>0 940<br>0 940<br>1 941<br>2 941<br>2 942<br>2 942<br>1 0.000<br>2.26<br>0.000<br>2.26<br>3 943<br>0.000<br>2.26<br>2.26<br>3 943<br>0.000<br>2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | - 00 | m     | 000- | 2.26    |
| 0 940<br>1 941<br>2 942<br>3 942<br>4 944<br>0.000<br>2.26<br>0.000<br>2.26<br>2.26<br>2.26<br>0.000<br>2.26<br>2.26<br>0.000<br>2.26<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.26<br>0.26<br>0.000<br>2.26<br>0.000<br>2.26<br>0.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.26<br>0.000<br>2.26<br>0.26<br>0.26<br>0.000<br>2.26<br>2.26<br>0.26<br>0.000<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26<br>2.26 | 0    | m     | 00.  | 2.26    |
| 1         941         0.000         2.26           2         942         0.000         2.26           3         943         0.000         2.26           4         94         0.000         2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0    | 5     | .00  | 2.26    |
| 2 P42 0.000 2.26<br>3 P43 0.000 2.26<br>4 P44 0.000 2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -    | 5     | 00.  | 2.26    |
| 3 p43 0.000 2.26<br>4 p44 0.000 2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | N    | 4     | .00  | 2.26    |
| 4 p44 0.000 2.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | m    | -     | .00  | 2.26    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4    | 5     | 00.  | 2.26    |

PAGE 11 May 15 15

| mystudy | C:\PQMethod\projects/mystudy |
|---------|------------------------------|
|         | Name:                        |
| 2.35    | Project                      |
| shod2   | and                          |
| PQMet   | Path                         |

Free Distribution Data Results

| QSORT<br>45 p45 | MEAN<br>0.000 | ST.DEV.<br>2.262 |
|-----------------|---------------|------------------|
| p46             | 0.000         | 2.262            |
| p47             | 0.000         | 2.262            |
| p48             | 0.000         | 2.262            |

PQMethod2.35 PQMethod2.35 Path and Project Name: C:\PQMethod\projects/mystudy

Factor Scores with Corresponding Ranks

| No.  | Statement                                              | No. | -     |    |       | N   |
|------|--------------------------------------------------------|-----|-------|----|-------|-----|
| г    | Children should be allowed to disagree with their pare | 1   | 1.09  | 9  | 0.35  |     |
| 0    | smack their child                                      | 0   | 0.89  | 11 | -1.25 |     |
| С    | 0.1                                                    | с   | 2.00  | m  | 2.09  | -   |
| 4    | We need to intevene if we see a child being hit        | 4   | 1.33  | 4  | 0.97  | ~   |
| ŝ    | are more likely to smack a child if we're feeli        | ŝ   | 1.08  | L  | 1.10  | ~   |
| 9    | are more likely to be smacked if the family is poo     | 9   | -0.32 | 27 | -0.94 | -   |
| 2    | often but less                                         | L   | -0.20 | 22 | -0.65 |     |
| 80   | I'm 'anti-abuse' not 'anti-smacking'                   | 8   | -0.30 | 25 | 1.72  | ~ . |
| 9    | t q                                                    | 6   | -1.21 | 41 | -1.44 |     |
| 10   |                                                        | 10  | -0.36 | 28 | 0.94  | _   |
| 11   | no one should tell me how to raise my kids             | 11  | -0.21 | 23 | 0.00  | ~   |
| 12   | How parents raise their chld is entirely their own bus | 12  | -1.13 | 39 | -0.25 |     |
| 13   | It's useful to say 'wait till your Father gets home'   | 13  | -0.66 | 31 | -1.54 |     |
| 14   | Even if we think a behaviour is not acceptable, anothe | 14  | -0.18 | 21 | -0.70 | ~   |
| 15   | Mothers smack for disciplinary reasons rather than ang | 15  | -0.27 | 24 | -0.31 |     |
| 16   | Ch learn right from wrong through physical punishment  | 16  | -1.76 | 44 | -1.91 | _   |
| 17   | ed from physi                                          | 17  | 2.02  | 2  | 1.95  | ~   |
| 18   | Many parents wish to use alternatives to physical disc | 18  | 1.06  | 00 | 1.37  | ~   |
| 19   | Smacking can teach respect                             | 19  | -1.30 | 42 | -1.14 |     |
| 20   | Slippery slope when how we raise kids is a social resp | 20  | -0.45 | 29 | 0.20  | ~   |
| 21   | so many                                                | 21  | 0.22  | 18 | -0.29 | -   |
| 22   | Sports like rugby have nothing to do with violence     | 22  | -0.15 | 20 | 0.55  |     |
| 23   | thers smack                                            | 23  | 0.29  | 17 | -0.24 |     |
| 24   | I follow the 'spare the rod, spoil the child' thinking | 24  | -1.04 | 36 | -1.43 |     |
| 25   | Children who are beaten often become aggressive adults | 25  | 0.58  | 14 | 0.16  |     |
| 26   | Sometimes necessary to smack our ch so they grow up we | 26  | -0.87 | 34 | -0.3  | -   |
| 27   | c nation parents should have the                       | 27  | -1.53 | 43 | -0.57 |     |
| 28   | I'm not going to be told what to do by a nanny state   | 28  | -0.51 | 30 | -0.10 | ~   |
| 29   | Children receive less protection than adults, criminal | 29  | 1.04  | 10 | 0.07  | ~   |
| 30   | A mother's self-control will influence her parenting   | 30  | 1.05  | σ  | 0.75  |     |
| 31   | are                                                    | 31  | 2.02  | -  | 2.14  |     |
| 32   | We hae a responsibility to protect children from paren | 32  | 1.14  | ŝ  | 1.27  | -   |
| 33   |                                                        | 33  | -1.06 | 37 | -0.21 | 1   |
| 34   |                                                        | 34  | -1.08 | 38 | 0.23  | m . |
| 35   |                                                        | 35  | -1.13 | 40 | -0.0- | 2   |
| 36   | NZ parents are capable fo determining what reasonable  | 36  | -0.94 | 35 | 0.19  | 0   |
| 37   | I got smacked and it never did me any harm             | 37  | -0.31 | 26 | 0.00  | ~   |
| 38   | The more people think smacking is ok the more violent  | 38  | 0.48  | 15 | -0.65 | 0   |
| 39   |                                                        | 39  | 0.02  | 19 | -1.21 | -   |
| 40   | Too much praise spoils a child                         | 40  | -0.70 | 32 | -1.34 | -   |
| 41   | smacking leads to abuse, but abuse starts fro          | 41  | 0.45  | 16 | 01    | -   |
| 42   | Mothers with strong values will teach their children r | 42  | 0.87  | 12 | 0.16  | 9   |
| 43   | Anger and frustration leads to more serious hitting    | 43  | 0.86  | 13 | 0.34  | 57  |
| POMe | POMethod2.35 mystudy                                   |     |       |    |       |     |
|      |                                                        |     |       |    |       |     |

pmystudy.lis

PAGE 12 May 15 15

PAGE 13 May 15 15

PAGE

14

Page 7

| pmystudy.lis                                        | Factors<br>1 2                                              | 0.84 33 -0.28 28                                             |                                    |     |                 |                 |                                                                             |                            | Z-SCORES      | 2.025                                                        | 2.005                                                                                                                                                        | 1.136                                               | 1.091              | 1.057                                                                                                                      | 1.053                                                | 0.893                                                                                                       | 0.868<br>0.856                                         | 0.578                                                  | 0.475                                                        | 0.294                                         | 0.222                                                   | -0.154                                             | -0.197                                                                                                                      | -0.213                                     | -0.297                                                                                           | -0.312                                     | -0.361                                                                                                                 | -0.446 | -0.657                                                                                                             | -0.698                         | 10.0010     | -0.945<br>-1.038                                                                                                            | 0 cord |
|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|------------------------------------|-----|-----------------|-----------------|-----------------------------------------------------------------------------|----------------------------|---------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------|--------|
|                                                     |                                                             | 01                                                           |                                    |     |                 |                 |                                                                             |                            | No.           | 31                                                           | - M 4                                                                                                                                                        | 32                                                  | u                  | - 8<br>1<br>1<br>9                                                                                                         | 30                                                   | 50                                                                                                          | 42                                                     | 25                                                     | 38                                                           | 53                                            | 21                                                      | 55                                                 | 1 T                                                                                                                         |                                            | 6                                                                                                | 37                                         | 10 0                                                                                                                   | 20     | 13                                                                                                                 | 40                             | 26          | 36                                                                                                                          |        |
| Path and Project Name: C:\PQMethod\projects/mystudy | Factor Scores with Corresponding Ranks<br>No. Statement No. | 44 Violence in a country has nothing to do with how we ra 44 | Correlations Between Factor Scores | 1 2 | 1 1.0000 0.6834 | 2 0.6834 1.0000 | PQMethod2.35 mystudy<br>Path and Project Name: C:\PQMethod\projects/mystudy | Factor Scores For Factor 1 | No. Statement | 31 Ch are human beings who need to be nurtured and protected | CH IN WA HAVE THE IIGHT TO BE PLOCECUCH IIM PHYSICAI ASSAUL<br>Chlaren should be respected as human beings<br>Ma mood Ar Stream of the sea a child heing hit | We have a responsibility to protect children from p | Children should be | We are more likely to smack a child if we're reeling angry<br>Many parents wish to use alternatives to physical discipline | A mother's self-control will influence her parenting | CALLATED FECEIVE LESS PROTECTION THAN AGULTS, CLIMMINALS<br>It's never ok for a parent to smack their child | s with strong values will teach their children respect | Children who are beaten often become aggressive adults | The more people think smacking is ok the more violent the so | Motherhood is so hard no wonder mothers smack | It's no wonder we ahve a 'violent society'so many angry | Sports like rugby have nothing to do with violence | Even if we think a behaviour is not acceptable, another cult<br>Mothers tend to smack children more often but less severely | no one should tell me how to raise my kids | Mothers smack for disciplinary reasons fauner unam amper<br>I'm 'anti-abuse' not 'anti-smacking' | I got smacked and it never did me any harm | 6 Ch are more likely to be smacked it the ramity is poor<br>10 It is excusable for a parent to smack a child sometimes |        | 28 I'm not going to be told what to do by a nanny state<br>13 It's useful to say 'wait till your Father gets home' | Too much praise spoils a child | N10<br>Soff | 36 NZ parents are capable fo determining what reasonable force<br>24 I follow the 'spare the rod, spoil the child' thinking | t:     |

PAGE 15 May 15 15

May 15 15

| pmystudy.lis<br>-1.079<br>-1.127<br>-1.128<br>-1.128<br>-1.299<br>-1.530                                                                                                                                                                                                                                                                                                                                                                                                                           | Z-SCORES<br>-1.762                                                                  | Z-SCORES                                                                          | 2.144<br>2.091<br>1.724<br>1.356<br>1.724<br>1.366<br>1.724<br>0.942<br>0.942<br>0.746<br>0.746<br>0.337<br>0.291<br>0.291<br>0.291<br>0.291<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.186<br>0.190<br>0.291<br>0.291<br>0.293<br>0.291<br>0.293<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.201<br>0.0010000000000 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 33<br>34<br>12<br>35<br>27<br>27                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No.<br>16                                                                           | No.                                                                               | 3<br>1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 33 We need to be able to smack when kids test parent's authorit<br>34 Not pos to reason with a chsometimes smacking is necessar<br>35 Not pos to reason with a chsometimes smacking is necessar<br>35 Repeal of sace59 destroys rights of parents to raise their ow<br>9 Children should learn to obey without question<br>19 Smacking can teach respect<br>27 As a democratic nation parents should have the right<br>PQMethod2.35 mystudy<br>Path and Project Name: C:\PQMethod\projects/mystudy | s For Factor 1<br>ent<br>rn right from wrong through physical punishment<br>mverudv | id Project Name: C:\PQMethod\projects/mystudy<br>Scores For Factor 2<br>Statement | <pre>11 Ch are human beings who need to be nurtured and protected<br/>23 Ch in NE have the right to be protected from physical assaul<br/>14 "anti-abuse" not "anti-smacking" to physical discipline<br/>18 Many parents wish to use alternatives to physical discipline<br/>18 Wany parents wish to use alternatives to physical discipline<br/>18 Wany parents wish to use alternatives to physical discipline<br/>18 Wany parents wish to use alternatives to physical discipline<br/>18 Wany parents wish to use alternatives to physical discipline<br/>18 Wany parents wish to use alternatives to physical discipline<br/>18 We need to intervene if we see a child being hit<br/>10 It is exclashe for a parent to smack a child sometimes<br/>20 A mother's self-control will influence her parenting<br/>21 Sports like rugby have nothing to do with violence<br/>21 Children should be allowed to disagree with their parents<br/>22 Anger and frustration leads to more serious hitting<br/>23 Anger and frustration leads to more serious hitting<br/>24 Not post to reason with a chsometimes smacking is necessar<br/>24 Not post to reason with a chsometimes smacking is necessar<br/>25 Children who are beaten often become aggressive adults.<br/>26 Children receive less protection than adults, criminals<br/>27 no one should be able to smack when kids test parent's authorit<br/>28 Repeal of sec59 destroys rights of parents to raise their ow<br/>28 We need to be able to smack when kids test parent's authorit<br/>28 Motherbould is so hard no wonder mothers smack<br/>29 Wothers waith second is on hould now the second sis on the parent's authorit<br/>20 Mothers smack for disciplinary reasons rather than anger<br/>20 Mothers smack for disciplinary reasons rather than anger<br/>28 Wothers smack for disciplinary reasons rather than anger<br/>29 Wothers smack for disciplinary reasons rather than anger<br/>20 Mothers smack for disciplinary reasons rather than anger<br/>20 Mothers smack for disciplinary reasons rather than anger<br/>20 Mothers smack for disciplinary reasons rather than anger<br/>29 Wothers smack for disciplinary reasons rather than ang</pre>                                                                                                                                                                                  |
| 33<br>34<br>12<br>35<br>9<br>19<br>19<br>27<br>727<br>PQMetl                                                                                                                                                                                                                                                                                                                                                                                                                                       | Factor<br>No. S<br>16 C                                                             | PQMetho<br>Path an<br>Factor<br>No. S                                             | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

PAGE 16 May 15 15

PAGE 17 May 15 15

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------|---------------|----------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------|--------|-------------|--------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------|----------|-----------------------------------------------------------------|--------|-----------------------------------------------|--------|------------------|-----------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------|--------|------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                          |                            |               |                                                                                  |                                                     |                                                         | Difference    | 2.144<br>1.232<br>1.128                                                                                                                                                                        | 0.973 | 0.887                                                                                                                  | 0.709<br>0.647                                                                                       | 0.621  | 0.520  | 0.516       | 0.451  | 0.376                                                                                                                  | 0.358                                                                                                        | 0.230  | 0.152    | 0.066                                                           | -0.017 | -0.086                                        | -0.130 | -0.159<br>-0.214 | -0.312                                                          | -0.317 | -0.537                                                                                                             | -0.556<br>-0.648 | -0.704                                                |        |      |
| pmystudy.lis<br>.139<br>.209<br>251<br>345<br>345<br>414<br>442<br>544                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                          |                            |               |                                                                                  |                                                     |                                                         | Type 2 D      | -1.251<br>-1.209<br>-0.653                                                                                                                                                                     | 0.072 | -1.544                                                                                                                 | 0.160 - 1.345                                                                                        | -0.941 | -0.701 | 0.337-0.294 | -0.648 | -1.414                                                                                                                 | 0.973<br>0.746                                                                                               | -1.442 | -1.914   | 1.953<br>-0 300                                                 | 1.101  | 2.091                                         | 1.266  | -1.139           | 1.369                                                           | -0.100 | -0.328                                                                                                             | -0.283           | 0.550                                                 |        |      |
| pmyst<br>-1.139<br>-1.209<br>-1.251<br>-1.351<br>-1.344<br>-1.442<br>-1.544                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                          |                            | Z-SCORES      | -1.914                                                                           |                                                     |                                                         | Type 1        | 0.893<br>0.022                                                                                                                                                                                 | 1.045 | -0.657                                                                                                                 | 0.868-0.698                                                                                          | -0.320 | -0.180 | 0.856       | -0.197 | -1.038                                                                                                                 | 1.331                                                                                                        | -1.212 | -1.762   | 2.020                                                           | 1.084  | 2.005                                         | 1.136  | -1.299           | 1.057                                                           | -0.312 | -0.865                                                                                                             | -0.840           | -0.154                                                | 500'TL | Fage |
| 19<br>139<br>139<br>139                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                          |                            | .ov           | 16                                                                               |                                                     |                                                         | .ov           | 39                                                                                                                                                                                             |       |                                                                                                                        | 42                                                                                                   | 9 00   |        | 43<br>21    | 5      | 24                                                                                                                     | 30                                                                                                           |        | 41<br>16 |                                                                 | 1<br>1 | о IS                                          | 32     | 19               |                                                                 |        | 26                                                                                                                 | 44<br>20         |                                                       | °,     |      |
| 19 Smacking can teach respect<br>39 Our society is like it is because we've allowed smacking so<br>2 It's never ok for a parent to smack their child<br>40 Too much praise spoils a child<br>24 I Follow the 'spare the rod, spoil the child' thinking<br>24 I follow the 'spare the rod, spoil the child' thinking<br>24 I follow the 'spare the rod, spoil the child' thinking<br>25 Children should learn to obey without question<br>13 It's useful to say 'wait till your Father gets home' | ₽<br>PQMethod2.35<br>Path and Project Name: C:\PQMethod\projects/mystudy | Factor Scores For Factor 2 | No. Statement | 16 Ch learn right from wrong through physical punishment<br>PQMethod2.35 mystudy | Path and Project Name: C:\PQMethod\projects/mystudy | Descending Array of Differences Between Factors 1 and 2 | No. Statement | 2 It's never ok for a parent to smack their child<br>39 Our society is like it is because we've allowed smacking so<br>mucroscoperation their incomplete to the more we've allowed smacking so |       | 13 It's useful to say 'wait till your Father gets home'<br>1 Children should be allowed to disagree with their parents | 42 Mothers with strong values will teach their children respect<br>40 Too much braise spoils a child | 1.544  |        | 8           |        | 25 Children who are beaten offen become aggressive adults<br>24 I follow the 'spare the rod, spoil the child' thinking | 4 We need to intevene if we see a child being hit<br>30 a mother's self-control will influence her parenting | 194    |          | 17 Ch in N2 have the right to be protected from physical assaul |        | 3 Chldren should be respected as human beings |        |                  | 18 Many parents wish to use alternatives to physical discipline |        | 26 I m not young to be total what to up by a name your 26 Sometimes necessary to smack our ch so they grow up well |                  | 22 Spitzers like rugby have nothing to dwith violence |        |      |

00 10

5 5

| pmystudy.lis<br>-1.127 -0.246 -0.881<br>-1.230 -0.572 -0.958<br>-1.128 -0.065 -1.063<br>-0.945 0.186 -1.131<br>-0.361 0.942 -1.305<br>-1.079 0.227 -1.306                                                                                                                                                                                                                                                                                                             | Type 1 Type 2 Difference                                              | -0.297 1.724 -2.021                                                                                                        | Factor Arrays                           | 1 2           | ι ιι ιιι ι ι ι ι ι ι ι<br>α |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------|-----------------------------|
| 12<br>27<br>35<br>36<br>36<br>34                                                                                                                                                                                                                                                                                                                                                                                                                                      | No.                                                                   | œ                                                                                                                          |                                         | No.           |                             |
| <pre>12 How parents raise their chld is entirely their own business 27 As a democratic nation parents should have the right 35 Repeal of sec59 destroys rights of parents to raise their ow 36 NZ parents capable for determining what reasonable force 10 It is excusable for a parent to smack a child sometimes 34 Not pos to reason with a chsometimes smacking is necessar 27 POMethod2.35 28 mystudy Path and Project Name: C:\POMethod\projects/mystudy </pre> | Descending Array of Differences Between Factors 1 and 2 No. Statement | 8 I'm 'anti-abuse' not 'anti-smacking'<br>?<br>PQMethod2.35 mystudy<br>Path and Project Name: C:\PQMethod\projects/mystudy | Factor Q-Sort Values for Each Statement | No. Statement |                             |

PAGE 20 May 15 15 PAGE 21 May 15 15

|                                                                                                                                                                                                                                                                                                                                                                        | PAGE 22<br>May 15 15                                                             |                   | PAGE 23<br>May 15 15 |                                                                                                            |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------|----------------------|------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pmystudy.lis<br>0 -3<br>-1 -3<br>2 1<br>1 1<br>-2 -1                                                                                                                                                                                                                                                                                                                   | Factor Arrays                                                                    | 1 2               |                      | Variance across Factor Z-Scores)                                                                           | Factor Arrays<br>1 2 | w o 4 4 4 4 4 4 0 4 0 4 0 0 6 4 4 1 0 1 1 0 1 4 1 4 0 4 4 4 4 4 4 4 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 39 Our society is like it is because we've allowed smacking so 39 40 Too much praise spoils a child 41 Not all smacking leads to abuse, but abuse starts from smack 41 42 Mothers with strong values will teach their children respect 42 43 Anger and frustration leads to more serious hitting 43 44 Violence in a country has nothing to do with how we raise ou 44 | ♀<br>PQMethod2.35 mystudy<br>Path and Project Name: C:\PQMethod\projects/mystudy | No. Statement No. | Mame: C:\PQMe        | Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across Factor Z-Scores) | No. Statement No.    | 5 We are more likely to smack a child if we're feeling angry 5 Mothers smack for disciplinary reasons rather than anger 13 Children should be respected as human beings who need to be nurtured and protected 33 Children should be respected as human beings who meed to be nurtured and protected 33 We have a responsibility to protect children from physical ansaul 13 Children should be respected as human beings who meed to be nurtured and protected 33 We have a responsibility to protect children from parents 16 Mot are number than anger 17 We have a responsibility to protect children from parents 34 We have a responsibility to protect children from parents 16 Mot ann should tell me how to raise my kids 11 mother's self-control will influence her parenting 30 A mother's self-control will influence her parenting 37 Mother's self-control will influence her parenting 37 Mother's self-control will influence her parenting 37 Mother's self-control will influence her parenting 38 Mother's self-control will influence her parenting 39 Mothers tend to smack children more often but sesses severely 38 Mothers tend to smack children more often but less severely 39 Mothers tend to smack children more actions hitting 24 Sometimes necessary to be smack dif the family is poor 40 Mothers likely to be smack dur cho acceptable, another cult 36 Sometimes more serious hitting 26 Sometimes more serio |

| <pre>K smacking is ok the more violent the so 38 1 mystud</pre>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | PAGE 24<br>May 15 15 |               |                 |                        |   |  |                       |                                            |   |       |         | PAGE 25<br>May 15 15                              |                                                      |                             |         |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                          |         |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------|-----------------|------------------------|---|--|-----------------------|--------------------------------------------|---|-------|---------|---------------------------------------------------|------------------------------------------------------|-----------------------------|---------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 38<br>36<br>36<br>36<br>36<br>36<br>36<br>36<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8 | 38 The more people think smacking is ok the more violent the so 38 1<br>36 NZ parents are capable fo determining what reasonable force 36 -2<br>39 Our society is like it is because we've allowed smacking so 39 0<br>10 It is excusable for a parent to smack a child sometimes 10 -1<br>34 Not post or eason with a chsometimes smacking is necessar 34 -3<br>8 I'm 'anti-abuse' not 'nati-smack' their child sometimes 2<br>2 It's never ok for a parent to smack their child | QMet<br>ath          | Factor Arrays | Statement No. 1 | Factor Characteristics | 1 |  | Factor 2-Scores 0.091 | (Diagonal Entries Are S.E. Within Factors) | 1 | 0.129 | 2 0.154 | QMethod2.35<br>ath and Project Name: C:\PQMethod\ | < ,05 ; Asterisk (*) Indicates Significance at P $<$ | and the Z-Score (Z-SCR) are | Factors | 1<br>Statement No. Q-SV Z-SCR Q-SV Z- | We need to intevene if we see a child being hit 4 3 1.33 2<br>Children should be allowed to disagree with their parents 1 3 1.09* 2<br>Many parents wish to use alternatives to physical discipline 18 2 1.06 3<br>A mother's self-control will influence her parenting 30 2 1.05 2<br>Children receive less protection than adults, criminals 2 2 0.89* -3 -<br>It's never ok for a parent to smack their children respect 42 2 0.87* 1 | Page 13 |

| 5  | Anger and frustration leads to more serious hitting            | ŝ  | 1 0.      | 0.86* | -      | 0.3   |
|----|----------------------------------------------------------------|----|-----------|-------|--------|-------|
| 25 |                                                                | S  | 1 0.5     | 58*   | 0      | 0.1   |
| 38 |                                                                | 8  | 1 0.      | 0.48* | 2      | -0.65 |
| 23 | Motherhood is so hard no wonder mothers smack                  | e  | 1 0.1     | 0.29* | 0      | -0.24 |
| 21 | It's no wonder we ahve a 'violent society'so many angry 2      | ч  | 1 0       | 0.22* | 7      | -0.2  |
| 39 | ~                                                              | б  | 0 0.0     | 0.02* | m<br>1 | -1.21 |
| 22 |                                                                | 2  | 0 -0.15   | 15*   | 0      | 0.5   |
| 14 | other cult                                                     | 14 | 0 -0.18*  | 18*   | 27     | -0.7( |
| 5  | Mothers tend to smack children more often but less severely    | 7  | 0-0       | 20*   | 27     | -0.65 |
| œ  | I'm 'anti-abuse' not 'anti-smacking'                           | 8  | 0 -0.30*  | 30*   | С      | 1.72  |
| 37 | I dot smacked and it never did me any harm                     | 2  | 0 -0.31   | 31    | 0      | 0.0   |
| 9  | Ch are more likely to be smacked if the family is poor         | 9  | -1 -0.32* | 32*   | 27     | -0.9  |
| 10 | It is excusable for a parent to smack a child sometimes 1      | 0  | -1 -0.36* | 36*   | 2      | 0.94  |
| 20 | Slipperv slope when how we raise kids is a social responsibi 2 | 0  | -1 -0.45* | 45*   | н      | 0.20  |
| 28 | I'm not going to be told what to do by a nanny state           | 28 | -1 -0.51* | 51*   | 0      | -0.10 |
| 13 |                                                                | e  | -1 -0.66* | *99   | -4     | -1.54 |
| 40 | Too much praise spoils a                                       | 0  | -1 -0.70* | ×04   | e<br>T | -1.34 |
| 44 | Violence in a country has nothing to do with how we raise ou   | 44 | -2 -0.84* | 84*   | 4      | -0.28 |
| 26 | Sometimes necessary to smack our ch so they grow up well 2     | 9  | -2 -0.87* | \$7*  | -      | -0.33 |
| 36 | rce                                                            | 36 | -2 -0.94* | + 16  | ч      | 0.19  |
| 24 | 101                                                            | 24 | -2 -1.04  | 04    | ñ      | -1.41 |
| 33 | We need to be able to smack when kids test parent's authorit 3 | e  | -2 -1.06* | +90   | 0      | -0.21 |
| 34 | Not pos to reason with a chsometimes smacking is necessar      | 34 | -3 -1.08* | *80   | н      | 0.23  |
| 12 | How parents raise their chld is entirely their own business    | 12 | -3 -1.13* | 13*   | 7      | -0.25 |
| 35 | Repeal of sec59 destroys rights of parents to raise their ow   | 35 | -3 -1.1   | .13*  | 0      | .0.0- |
| 50 | As a democratic nation parents should have the right 2         | L  | -4 -1.    | 53*   | 7      | -0.57 |

PQMethod2.35 mystudy Path and Project Name: C:\PQMethod\projects/mystudy

PAGE 26 May 15 15

-- Those That Do Not Distinguish Between ANY Pair of Factors. Consensus Statements

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an \* are also Non-Significant at P>.05.

Factors

|                                                              |     |        | 1          |     | 7          |
|--------------------------------------------------------------|-----|--------|------------|-----|------------|
|                                                              | .ov | 0-SV   | Q-SV Z-SCR |     | Q-SV Z-SCR |
| Chldren should be respected as human beings                  | т   | 4      | 2.00       | 4   | 2.09       |
| We need to intevene if we see a child being hit              | 4   | ы      | 1.33       | 0   | 0.97       |
| We are more likely to smack a child if we're feeling angry   | S   | m      | 1.08       | m   | 1.10       |
| Children should learn to obey without question               | 6   | r<br>I | -1.21      | -4  | -1.44      |
| no one should tell me how to raise my kids                   | 11  | 0      | -0.21      | 0   | 0.00       |
| Mothers smack for disciplinary reasons rather than anger     | 15  | 0      | 0 -0.27    | 7   | -0.31      |
| Ch learn right from wrong through physical punishment        | 16  | -4     | -4 -1.76   | -4  | -1.91      |
| Ch in NZ have the right to be protected from physical assaul | 17  | 4      | 2.02       | 4   | 1.95       |
| Many parents wish to use alternatives to physical discipline | 18  | 0      | 1.06       |     | 1.37       |
| Smacking can teach respect                                   | 19  | -4     | -4 -1.30   | -2  | -2 -1.14   |
| I follow the 'spare the rod, spoil the child' thinking       | 24  | 2-     | -2 -1.04   | Ŷ   | -1.41      |
| A mother's self-control will influence her parenting         | 30  | 2      | 1.05       | (1) | 0.75       |
| Ch are human beings who need to be nurtured and protected    | 31  | 4      | 2.02       | 4   | 2.14       |
| We hae a responsibility to protect children from parents     | 32  | m      | 1.14       | m   | 1.27       |
| I dot smacked and it never did me any harm                   | 37  | 0      | -0.31      | 0   | 0.00       |
| with all amountant he abused but abuse staute from smark     | 11  | 5      | 0 45       | -   | 0 20       |

QANALYZE was completet at 15:00:16

### **APPENDIX Q**

Factor 1 has and eigenvalue of 24.53 and explains 79% of the study variance. 45 participants are significantly associated with Factor 1

(Based on 3 Factors, not 2!)

| FA  | FACTOR 1                                                                                                                                      | F1 | F2 |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| ITE | ITEMS RANKED AT +4                                                                                                                            |    |    |
| e   | Children should be respected as human beings.                                                                                                 | 4  | 4  |
| 17  | Children in New Zealand, like adults, have the right to be protected from physical assault.                                                   | 4  | 4  |
| 31  | Children are human beings who need to be nurtured and protected.                                                                              | 4  | 4  |
|     |                                                                                                                                               |    |    |
| ITE | ITEMS RANKED HIGHER BY FACTOR 1 THAN BY FACTOR 2                                                                                              |    |    |
| 1   | Children should be allowed to disagree with their parents.                                                                                    | 3  | 2  |
| 2   | It's never ok for a parent to smack their child.                                                                                              | 2  | ċ, |
| 4   | We need to learn how to intervene if we see a child being hit severely in public.                                                             | ε  | 2  |
| 9   | Children are more likely to be smacked if the family is poor or not well educated.                                                            | Ļ  | -2 |
| 7   | Mothers tend to smack children more often but less severely than men.                                                                         | 0  | -2 |
| 6   | Children should learn to obey without question.                                                                                               | -3 | -4 |
| 13  | It's useful to say 'wait till your Father gets home'.                                                                                         | -1 | -4 |
| 14  | Even if we think a particular behaviour is not acceptable, if another culture thinks it is we need to respect that.                           | 0  | -2 |
| 15  | Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men.                                             | 0  | -1 |
| 21  | It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand.                           | 1  | Ļ  |
| 23  | Motherhood is so hard, no wonder mothers sometimes 'lose it' and smack their children.                                                        | 1  | 0  |
| 24  | I follow the 'spare the rod, spoil the child' thinking.                                                                                       | -2 | -3 |
| 25  | Children who are beaten often become aggressive adults.                                                                                       | 1  | 0  |
| 29  | Children receive less protection than adults, criminals and animals.                                                                          | 2  | 0  |
| 38  | The more people think smacking is ok the more violent the society.                                                                            | 1  | -2 |
| 39  | Our society is like it is because we've allowed smacking for so long.                                                                         | 0  | ς  |
| 40  | Too much praise spoils a child.                                                                                                               | -1 | -3 |
| 42  | Mothers with strong values will teach their children respect and self-restraint by never smacking their children when they are and vith them. | 2  | 1  |
|     |                                                                                                                                               |    |    |
| ITE | ITEMS RANKED LOWER BY FACTOR 1 THAN BY FACTOR 2                                                                                               |    |    |
| 10  | It is excusable for a parent to smack a child under certain circumstances.                                                                    | -1 | 2  |
| 12  | How parents raise their child is entirely their own business.                                                                                 | -3 | -1 |

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Г

| 19 | 19 Smacking can teach respect.                                                                                       | -4 | -2 |
|----|----------------------------------------------------------------------------------------------------------------------|----|----|
| 20 | It's a slippery slope when how we raise our kids becomes a social responsibility.                                    | -1 | 1  |
| 22 | Sports like rugby have nothing to do with violence, they're just sports.                                             | 0  | 2  |
| 26 | It's sometimes necessary to smack our children because we want them to grow up well.                                 | -2 | Ļ  |
| 27 | As a democratic nation parents should continue to have the right to discipline their children by force if necessary. | -4 | -1 |
| 28 | I'm not going to be told what to do by a nanny state.                                                                | -1 | 0  |
| 33 | We need to be able to smack when kids test parent's authority.                                                       | -2 | 0  |
| 34 | Since it is not possible to reason with a child, sometimes smacking is necessary.                                    | ς- | Ч  |
| 35 | The repeal of section 59 destroys the rights of parents to raise their own kids.                                     | ς- | 0  |
| 36 | New Zealand parents are capable of determining what reasonable force is and this is not the business of government.  | -2 | Ч  |
| 44 | How much violence there is in a country has nothing to do with how we raise our kids.                                | -2 | -1 |
|    |                                                                                                                      |    |    |
|    |                                                                                                                      |    |    |

| ITE | ITEMS RANKED AT -4                                                                                                      |    |    |
|-----|-------------------------------------------------------------------------------------------------------------------------|----|----|
| 16  | 16 Children best learn right from wrong through the use of physical punishment.                                         | -4 | -4 |
| 19  | 19 Smacking can teach respect.                                                                                          | -4 | -2 |
| 27  | 27 As a democratic nation parents should continue to have the right to discipline their children by force if necessary. | -4 | -1 |

Т

Factor 2 has and eigenvalue of 3.66 and explains 29% of the study variance. 8 participants are significantly associated with Factor 2.

| FA  | FACTOR 2                                                                                                                       | F1 | F2 |
|-----|--------------------------------------------------------------------------------------------------------------------------------|----|----|
| E   | ITEMS RANKED AT +4                                                                                                             |    |    |
| m   | Children should be respected as human beings.                                                                                  | 4  | 4  |
| 17  | Children in New Zealand, like adults, have the right to be protected from physical assault.                                    | 4  | 4  |
| 31  | Children are human beings who need to be nurtured and protected.                                                               | 4  | 4  |
|     |                                                                                                                                |    |    |
| ITE | ITEMS RANKED HIGHER BY FACTOR 2 THAN BY FACTOR 1                                                                               |    |    |
| ∞   | I'm 'anti-abuse' not 'anti-smacking'.                                                                                          | 0  | æ  |
| 10  | It is excusable for a parent to smack a child under certain circumstances.                                                     | -1 | 2  |
| 18  | Many parents wish to use alternatives to physical discipline.                                                                  | 2  | °  |
| 22  | Sports like rugby have nothing to do with violence, they're just sports.                                                       | 0  | 2  |
|     |                                                                                                                                |    |    |
| ITE | ITEMS RANKED LOWER BY FACTOR 2 THAN BY FACTOR 1                                                                                |    |    |
| Ч   | Children should be allowed to disagree with their parents.                                                                     | с  | 2  |
| 2   | It's never ok for a parent to smack their child.                                                                               | 2  | -3 |
| 4   | We need to learn how to intervene if we see a child being hit severely in public.                                              | 3  | 2  |
| 9   | Children are more likely to be smacked if the family is poor or not well educated.                                             | -1 | -2 |
| 7   | Mothers tend to smack children more often but less severely than men.                                                          | 0  | -2 |
| 6   | Children should learn to obey without question.                                                                                | -3 | -4 |
| 13  | It's useful to say 'wait till your Father gets home'.                                                                          | Ļ  | -4 |
| 14  | Even if we think a particular behaviour is not acceptable, if another culture thinks it is we need to respect that.            | 0  | -2 |
| 15  | Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men.                              | 0  | -1 |
| 21  | It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand.            | 1  | -1 |
| 23  | Motherhood is so hard, no wonder mothers sometimes 'lose it' and smack their children.                                         | 1  | 0  |
| 24  | I follow the 'spare the rod, spoil the child' thinking.                                                                        | -2 | -3 |
| 25  | Children who are beaten often become aggressive adults.                                                                        | 1  | 0  |
| 38  | The more people think smacking is ok the more violent the society.                                                             | 1  | -2 |
| 39  | Our society is like it is because we've allowed smacking for so long.                                                          | 0  | -3 |
| 40  | Too much praise spoils a child.                                                                                                | -1 | -3 |
| 42  | Mothers with strong values will teach their children respect and self-restraint by never smacking their children when they are | 2  | 1  |

## **APPENDIX Q**

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| ITE | ITEMS RANKED AT -4                                                              |    |    |
|-----|---------------------------------------------------------------------------------|----|----|
| 6   | 9 Children should learn to obey without question.                               | -3 | -4 |
| 13  | 13   It's useful to say 'wait till your Father gets home'.                      | -1 | -4 |
| 16  | 16 Children best learn right from wrong through the use of physical punishment. | -4 | -4 |

# ALL STATEMENTS

| 1  | Children should be allowed to disagree with their parents.                                                          | С  | 2  |
|----|---------------------------------------------------------------------------------------------------------------------|----|----|
| 2  | It's never ok for a parent to smack their child.                                                                    | 2  | -3 |
| 3  | Children should be respected as human beings.                                                                       | 4  | 4  |
| 4  | We need to learn how to intervene if we see a child being hit severely in public.                                   | 8  | 2  |
| ß  | We are more likely to smack a child if we're feeling angry, frustrated or tired.                                    | 8  | m  |
| 9  | Children are more likely to be smacked if the family is poor or not well educated.                                  | -1 | -2 |
| 7  | Mothers tend to smack children more often but less severely than men.                                               | 0  | -2 |
| ∞  | l'm 'anti-abuse' not 'anti-smacking'.                                                                               | 0  | m  |
| 6  | Children should learn to obey without question.                                                                     | £- | -4 |
| 10 | It is excusable for a parent to smack a child under certain circumstances.                                          | -1 | 2  |
| 11 | No one should tell me how to raise my kids.                                                                         | 0  | 0  |
| 12 | How parents raise their child is entirely their own business.                                                       | £- | -1 |
| 13 | It's useful to say 'wait till your Father gets home'.                                                               | -1 | -4 |
| 14 | Even if we think a particular behaviour is not acceptable, if another culture thinks it is we need to               | 0  | -2 |
| 15 | Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men.                   | 0  | -1 |
| 16 | Children best learn right from wrong through the use of physical punishment.                                        | -4 | -4 |
| 17 | Children in New Zealand, like adults, have the right to be protected from physical assault.                         | 4  | 4  |
| 18 | Many parents wish to use alternatives to physical discipline.                                                       | 2  | 3  |
| 19 | Smacking can teach respect.                                                                                         | -4 | -2 |
| 20 | It's a slippery slope when how we raise our kids becomes a social responsibility.                                   | -1 | 1  |
| 21 | It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand. | Ч  | 1  |
| 22 | Sports like rugby have nothing to do with violence, they're just sports.                                            | 0  | 2  |
| 23 | Motherhood is so hard, no wonder mothers sometimes 'lose it' and smack their children.                              | 1  | 0  |
| 24 | I follow the 'spare the rod, spoil the child' thinking.                                                             | -2 | -3 |
| 25 | Children who are beaten often become aggressive adults.                                                             | -  | 0  |

## **APPENDIX Q**

| 26     | It's sometimes necessary to smack our children because we want them to grow up well.                          | -2              | -1 |
|--------|---------------------------------------------------------------------------------------------------------------|-----------------|----|
| 27     | As a democratic nation parents should continue to have the right to discipline their children by force if     | <del>1</del> -4 | -1 |
|        | necessary.                                                                                                    |                 |    |
| 28     | I'm not going to be told what to do by a nanny state.                                                         | <u>-</u>        | 0  |
| 29     | Children receive less protection than adults, criminals and animals.                                          | 2               | 0  |
| 30     | A mother's self-control will influence her parenting practices.                                               | 2               | 2  |
| 31     | Children are human beings who need to be nurtured and protected.                                              | 4               | 4  |
| 32     | We have a responsibility to protect children from parents who cannot control their temper.                    | 3               | S  |
| 33     | We need to be able to smack when kids test parent's authority.                                                | -2              | 0  |
| 34     | Since it is not possible to reason with a child, sometimes smacking is necessary.                             | -3              | 1  |
| 35     | The repeal of section 59 destroys the rights of parents to raise their own kids.                              | -3              | 0  |
| 36     | New Zealand parents are capable of determining what reasonable force is and this is not the business of       | C               | ~  |
| nc     | government.                                                                                                   | 7-              | -  |
| 37     | I got smacked and it never did me any harm.                                                                   | 0               | 0  |
| 38     | The more people think smacking is ok the more violent the society.                                            | 1               | -2 |
| 39     | Our society is like it is because we've allowed smacking for so long.                                         | 0               | -3 |
| 40     | Too much praise spoils a child.                                                                               | -1              | -3 |
| 41     | Not all smacking leads to abuse, but abuse all too frequently starts with smacking.                           | 1               | 1  |
| C V    | Mothers with strong values will teach their children respect and self-restraint by never smacking their       | ć               | ~  |
| 4      | children when they are angry with them.                                                                       | ۷               | ł  |
| CV     | A lot of people are actually quite angry and frustrated with their lives and this is what really leads to the | ~               | ~  |
| t<br>0 | more serious hitting.                                                                                         | H               | ł  |
| 44     | How much violence there is in a country has nothing to do with how we raise our kids.                         | -2              | -1 |

Factor 1 has and eigenvalue of 24.53 and explains 79% of the study variance. 45 participants are significantly associated with Factor 1

(Based on 3 Factors, not 2!)

| FA  | FACTOR 1                                                                                                                                        | F1 | F2 |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| ITE | ITEMS RANKED AT +4                                                                                                                              |    |    |
| 3   | Children should be respected as human beings.                                                                                                   | 4  | 4  |
| 17  | Children in New Zealand, like adults, have the right to be protected from physical assault.                                                     | 4  | 4  |
| 31  | Children are human beings who need to be nurtured and protected.                                                                                | 4  | 4  |
|     |                                                                                                                                                 |    |    |
| ITE | ITEMS RANKED HIGHER BY FACTOR 1 THAN BY FACTOR 2                                                                                                |    |    |
| 1   | Children should be allowed to disagree with their parents.                                                                                      | £  | 2  |
| 2   | It's never ok for a parent to smack their child.                                                                                                | 2  | Ϋ́ |
| 4   | We need to learn how to intervene if we see a child being hit severely in public.                                                               | £  | 2  |
| 9   | Children are more likely to be smacked if the family is poor or not well educated.                                                              | -1 | -2 |
| 7   | Mothers tend to smack children more often but less severely than men.                                                                           | 0  | -2 |
| 6   | Children should learn to obey without question.                                                                                                 | -3 | -4 |
| 13  | It's useful to say 'wait till your Father gets home'.                                                                                           | -1 | -4 |
| 14  | Even if we think a particular behaviour is not acceptable, if another culture thinks it is we need to respect that.                             | 0  | -2 |
| 15  | Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men.                                               | 0  | -1 |
| 21  | It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand.                             | 1  | -1 |
| 23  | Motherhood is so hard, no wonder mothers sometimes 'lose it' and smack their children.                                                          | 1  | 0  |
| 24  | I follow the 'spare the rod, spoil the child' thinking.                                                                                         | -2 | -3 |
| 25  | Children who are beaten often become aggressive adults.                                                                                         | 1  | 0  |
| 29  | Children receive less protection than adults, criminals and animals.                                                                            | 2  | 0  |
| 38  | The more people think smacking is ok the more violent the society.                                                                              | 1  | -2 |
| 39  | Our society is like it is because we've allowed smacking for so long.                                                                           | 0  | Ϋ́ |
| 40  | Too much praise spoils a child.                                                                                                                 | -1 | -3 |
| 42  | Mothers with strong values will teach their children respect and self-restraint by never smacking their children when they are angry with them. | 2  | 1  |
|     |                                                                                                                                                 |    |    |
| ITE | ITEMS RANKED LOWER BY FACTOR 1 THAN BY FACTOR 2                                                                                                 |    |    |
| 10  | It is excusable for a parent to smack a child under certain circumstances.                                                                      | -1 | 2  |
| 12  | How parents raise their child is entirely their own business.                                                                                   | -3 | -1 |

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| 19 | 19 Smacking can teach respect.                                                                                       | -4 | -2 |
|----|----------------------------------------------------------------------------------------------------------------------|----|----|
| 20 | It's a slippery slope when how we raise our kids becomes a social responsibility.                                    | -1 | 1  |
| 22 | 22 Sports like rugby have nothing to do with violence, they're just sports.                                          | 0  | 2  |
| 26 | It's sometimes necessary to smack our children because we want them to grow up well.                                 | -2 | -1 |
| 27 | As a democratic nation parents should continue to have the right to discipline their children by force if necessary. | -4 | -1 |
| 28 | I'm not going to be told what to do by a nanny state.                                                                | -1 | 0  |
| 33 | We need to be able to smack when kids test parent's authority.                                                       | -2 | 0  |
| 34 | Since it is not possible to reason with a child, sometimes smacking is necessary.                                    | ς- | 1  |
| 35 | The repeal of section 59 destroys the rights of parents to raise their own kids.                                     | ς- | 0  |
| 36 | New Zealand parents are capable of determining what reasonable force is and this is not the business of government.  | -2 | 1  |
| 44 | How much violence there is in a country has nothing to do with how we raise our kids.                                | -2 | -1 |
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| 16 | Children best learn right from wrong through the use of physical punishment.                                         | -4 | -4 |
|----|----------------------------------------------------------------------------------------------------------------------|----|----|
| 19 | Smacking can teach respect.                                                                                          | -4 | -2 |
| 27 | As a democratic nation parents should continue to have the right to discipline their children by force if necessary. | -4 | -1 |

Factor 2 has and eigenvalue of 3.66 and explains 29% of the study variance. 8 participants are significantly associated with Factor 2.

| FACTOR 2    | R 2                                                                                                                            | <b>F1</b> | F2 |
|-------------|--------------------------------------------------------------------------------------------------------------------------------|-----------|----|
| ITEMS RA    | TEMS RANKED AT +4                                                                                                              |           |    |
| 3 Childr    | Children should be respected as human beings.                                                                                  | 4         | 4  |
| 17 Childr   | Children in New Zealand, like adults, have the right to be protected from physical assault.                                    | 4         | 4  |
| 31 Childr   | Children are human beings who need to be nurtured and protected.                                                               | 4         | 4  |
|             |                                                                                                                                |           |    |
| ITEMS RA    | ITEMS RANKED HIGHER BY FACTOR 2 THAN BY FACTOR 1                                                                               |           |    |
| 8 l'm 'ai   | l'm 'anti-abuse' not 'anti-smacking'.                                                                                          | 0         | 3  |
| 10 It is ex | It is excusable for a parent to smack a child under certain circumstances.                                                     | -1        | 2  |
| 18 Many     | Many parents wish to use alternatives to physical discipline.                                                                  | 2         | 3  |
| 22 Sports   | Sports like rugby have nothing to do with violence, they're just sports.                                                       | 0         | 2  |
|             |                                                                                                                                |           |    |
| ITEMS RA    | ITEMS RANKED LOWER BY FACTOR 2 THAN BY FACTOR 1                                                                                |           |    |
| 1 Childr    | Children should be allowed to disagree with their parents.                                                                     | £         | 2  |
| 2 lt's ne   | It's never ok for a parent to smack their child.                                                                               | 2         | -3 |
| 4 We ne     | We need to learn how to intervene if we see a child being hit severely in public.                                              | 3         | 2  |
| 6 Childr    | Children are more likely to be smacked if the family is poor or not well educated.                                             | -1        | -2 |
| 7 Mothe     | Mothers tend to smack children more often but less severely than men.                                                          | 0         | -2 |
| 9 Childr    | Children should learn to obey without question.                                                                                | -3        | -4 |
| 13 It's us  | lt's useful to say 'wait till your Father gets home'.                                                                          | -1        | -4 |
| 14 Even i   | Even if we think a particular behaviour is not acceptable, if another culture thinks it is we need to respect that.            | 0         | -2 |
|             | Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men.                              | 0         | -1 |
| 21 It's no  | It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand.            | 1         | -1 |
| 23 Mothe    | Motherhood is so hard, no wonder mothers sometimes 'lose it' and smack their children.                                         | 1         | 0  |
| 24 I follo  | I follow the 'spare the rod, spoil the child' thinking.                                                                        | -2        | -3 |
|             | Children who are beaten often become aggressive adults.                                                                        | 1         | 0  |
| 38 The m    | The more people think smacking is ok the more violent the society.                                                             | 1         | -2 |
| 39 Our so   | Our society is like it is because we've allowed smacking for so long.                                                          | 0         | -3 |
| 40 Too m    | Too much praise spoils a child.                                                                                                | -1        | -3 |
| 42 Mothe    | Mothers with strong values will teach their children respect and self-restraint by never smacking their children when they are | 2         | 1  |

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| Ë | ITEMS RANKED AT -4                              |    |    |
|---|-------------------------------------------------|----|----|
| 6 | Children should learn to obey without question. | -3 | -4 |
|   |                                                 |    |    |

| ΞL | ITEMS RANKED AT -4                                                              |    |                |
|----|---------------------------------------------------------------------------------|----|----------------|
| 6  | Children should learn to obey without question.                                 | -3 | <del>7</del> - |
| 13 | 13   It's useful to say 'wait till your Father gets home'.                      | -1 | <del>7</del> - |
| 16 | 16 Children best learn right from wrong through the use of physical punishment. | -4 | -4             |

# ALL STATEMENTS

| 1  | Children should be allowed to disagree with their parents.                                                          | S  | 2      |
|----|---------------------------------------------------------------------------------------------------------------------|----|--------|
| 2  | It's never ok for a parent to smack their child.                                                                    | 2  | -3     |
| 3  | Children should be respected as human beings.                                                                       | 4  | 4      |
| 4  | We need to learn how to intervene if we see a child being hit severely in public.                                   | 3  | 2      |
| 5  | We are more likely to smack a child if we're feeling angry, frustrated or tired.                                    | 3  | 3      |
| 9  | Children are more likely to be smacked if the family is poor or not well educated.                                  | -1 | -2     |
| 7  | Mothers tend to smack children more often but less severely than men.                                               | 0  | -2     |
| ∞  | l'm 'anti-abuse' not 'anti-smacking'.                                                                               | 0  | S      |
| 6  | Children should learn to obey without question.                                                                     | -3 | -4     |
| 10 | It is excusable for a parent to smack a child under certain circumstances.                                          | -1 | 2      |
| 11 | No one should tell me how to raise my kids.                                                                         | 0  | 0      |
| 12 | How parents raise their child is entirely their own business.                                                       | -3 | -      |
| 13 | It's useful to say 'wait till your Father gets home'.                                                               | -1 | -4     |
| 14 | Even if we think a particular behaviour is not acceptable, if another culture thinks it is we need to               | 0  | -2     |
|    | respect that.                                                                                                       | )  | I      |
| 15 | Mothers tend to smack for disciplinary reasons rather than out of anger or frustration, like men.                   | 0  | -1     |
| 16 | Children best learn right from wrong through the use of physical punishment.                                        | -4 | -4     |
| 17 | Children in New Zealand, like adults, have the right to be protected from physical assault.                         | 4  | 4      |
| 18 | Many parents wish to use alternatives to physical discipline.                                                       | 2  | З      |
| 19 | Smacking can teach respect.                                                                                         | -4 | -2     |
| 20 | It's a slippery slope when how we raise our kids becomes a social responsibility.                                   | -1 | 1      |
| 21 | It's no wonder we have a 'violent society' since there are so many angry and aggressive individuals in New Zealand. | 1  | -<br>1 |
| 22 | Sports like rugby have nothing to do with violence, they're just sports.                                            | 0  | 2      |
| 23 | Motherhood is so hard, no wonder mothers sometimes 'lose it' and smack their children.                              | 1  | 0      |
| 24 | I follow the 'spare the rod, spoil the child' thinking.                                                             | -2 | -3     |
| 25 | Children who are beaten often become aggressive adults.                                                             | 1  | 0      |

| 26     | It's sometimes necessary to smack our children because we want them to grow up well.                          | -2 | -1 |
|--------|---------------------------------------------------------------------------------------------------------------|----|----|
| 27     | As a democratic nation parents should continue to have the right to discipline their children by force if     | -4 | -1 |
|        | liecessaly.                                                                                                   |    |    |
| 28     | I'm not going to be told what to do by a nanny state.                                                         | -1 | 0  |
| 29     | Children receive less protection than adults, criminals and animals.                                          | 2  | 0  |
| 30     | A mother's self-control will influence her parenting practices.                                               | 2  | 2  |
| 31     | Children are human beings who need to be nurtured and protected.                                              | 4  | 4  |
| 32     | We have a responsibility to protect children from parents who cannot control their temper.                    | 3  | S  |
| 33     | We need to be able to smack when kids test parent's authority.                                                | -2 | 0  |
| 34     | Since it is not possible to reason with a child, sometimes smacking is necessary.                             | -3 | 1  |
| 35     | The repeal of section 59 destroys the rights of parents to raise their own kids.                              | -3 | 0  |
| 26     | New Zealand parents are capable of determining what reasonable force is and this is not the business of       | ć  | ~  |
| nc     | government.                                                                                                   | 7- | -  |
| 37     | I got smacked and it never did me any harm.                                                                   | 0  | 0  |
| 38     | The more people think smacking is ok the more violent the society.                                            | 1  | -2 |
| 39     | Our society is like it is because we've allowed smacking for so long.                                         | 0  | -3 |
| 40     | Too much praise spoils a child.                                                                               | -1 | -3 |
| 41     | Not all smacking leads to abuse, but abuse all too frequently starts with smacking.                           | 1  | 1  |
| CV     | Mothers with strong values will teach their children respect and self-restraint by never smacking their       | ć  | ~  |
| 4      | children when they are angry with them.                                                                       | 7  | ł  |
| 212    | A lot of people are actually quite angry and frustrated with their lives and this is what really leads to the | ~  | ~  |
| )<br>1 | more serious hitting.                                                                                         | 4  | 4  |
| 44     | How much violence there is in a country has nothing to do with how we raise our kids.                         | -2 | -1 |