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**Parent Management Training  
for the Families of Children Diagnosed  
with Attention Deficit Hyperactivity Disorder**

**Four case studies with a multiple baseline  
across participants design  
using the Incredible Years Parent Training Series**

A thesis presented in partial fulfilment of the  
requirements for the degree of  
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New Zealand.

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## *Abstract*

Attention deficit hyperactivity disorder (ADHD) is a commonly diagnosed behavioural disorder of childhood that has had a dramatic increase in diagnosis in recent years. It has long-term adverse effects on educational and psychosocial outcomes, and is a major health problem for individuals, families and society. Parents of children with ADHD often lack the skills to manage difficult behaviour effectively. Family functioning may also be compromised. This includes increased stress levels for parents. While medication is the single most effective intervention for the symptoms of ADHD, it has not yet been demonstrated to have long-term benefits, has adverse side effects for some children and does not address the associated comorbid disorders that often accompany ADHD. The combination of medication and parent training may result in better long-term outcomes for children and their parents. The aim of this research was to assess the effectiveness of 'The Incredible Years Parent Training Series' on the functioning of families of children with ADHD. The program is an empirically based parent training intervention that uses group discussion, videotape modelling, role plays and rehearsal, along with facilitator input and guidance. A multiple baseline across participants design was employed with four research participants in a group of parents attending a 2-hour treatment session weekly for 20 weeks. Participants were referred from the Child and Adolescent Mental Health Specialist Service at Tauranga Hospital and were all solo mothers with sons between 5 and 10 years of age who met the DSM IV criteria for ADHD. Family functioning was assessed from a pre-treatment interview schedule, measures of child behaviour (CBCL, Conners, Strengths and Difficulties Questionnaire, daily ratings of child behaviour), and parental and family functioning (BDI- II, Parental Stress Index, weekly ratings on specific areas of family functioning, group goals). Participants also completed programme satisfaction and evaluation measures. Results showed (a) improvement in teacher reports of child behaviour but generally not in parent psychometric reports, (b) improved targeted family functioning problems, (c) high number of goals achieved related to child behaviours, (d) reduced stress and depression levels for most participants (e) reports of better parent-child relationships, and (f) increased parental confidence. Additionally, participants were highly satisfied with the programme. Findings support the use of the Incredible Years Parent Training Series as an effective low cost intervention to improve the functioning of families of ADHD children.

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## *Table of Contents*

Abstract.....	ii
Acknowledgements.....	iii
Table of Contents.....	iv
List of Tables.....	ix
List of Figures.....	x
<b>Chapter 1: Background of the Study.....</b>	<b>1</b>
Introduction.....	1
History and Diagnosis of ADHD.....	2
Aetiology.....	3
Heredity and Genetic Factors.....	3
Neurological.....	4
Psychosocial.....	4
Environmental.....	5
Summary.....	5
Behavioural Characteristics of Children with ADHD and their Parents.....	5
Co-morbidity and Developmental Pathways.....	5
Long-term Effects of ADHD.....	6
Treatment Options for ADHD.....	7
Pharmacological Intervention.....	8
Psychosocial Interventions.....	10
Combined Pharmacological and Psychosocial Treatment.....	11
Parental Factors.....	11
Parental Stress and Dysfunction.....	11
The Vicious Cycle.....	12
Development of Parent Training Programmes.....	12
<b>Chapter 2: The Incredible Years Parent Training Programme.....</b>	<b>16</b>
Overview and Rationale.....	16

The Specifics of Incredible Years Parent Training.....	18
Programme Format .....	20
Programme Delivery and Facilitator Role.....	20
Videotape .....	20
Rehearsal.....	21
Home Assignments.....	21
Efficacy of Incredible Years Parent Training Programme .....	21
Treatment Studies .....	21
Prevention Studies .....	21
Group Intervention.....	21
Advanced Programme .....	22
Incredible Years and Eclectic Treatment.....	22
Summary and Long term Effectiveness.....	22
The Present Study .....	23
<b>Chapter 3: Method .....</b>	<b>24</b>
Design .....	24
Participants .....	24
Children .....	28
Assessment .....	28
ADHD Diagnosis.....	28
Interview Schedule .....	29
Child Behaviour Measures.....	29
Child Behaviour Check List CBCL/4-18 .....	29
Conners' Rating Scales –Revised (L).....	30
The Strengths and Difficulties Questionnaire (SDQ).....	30
Daily Behaviour Record .....	31
Parental Functioning Measures.....	31
Beck Depression Inventory: - Second Edition (BDI -II).....	31
The Parental Stress Index: Short Form (PSI/SF).....	32
Weekly Family Functioning Measures.....	33

Group Goals.....	33
Parent Satisfaction Questionnaire.....	33
Programme Evaluation .....	33
Procedure .....	34
The Training Programme.....	35
Treatment Materials.....	36
Intervention.....	37
Treatment Integrity .....	37
Ethical Considerations:.....	37
<b>Chapter 4: Results .....</b>	<b>38</b>
General Trends.....	38
Child Behaviour Psychometrics .....	38
Conners' Parent and Teacher Scores (Table 2). .....	38
CBCL Parent and Teacher Scores (Table 3).....	39
Strengths and Difficulties Questionnaire.....	41
Daily Behaviour Measures .....	42
Individual Child Measures.....	43
Child A .....	43
Child B.....	47
Child C.....	51
Child D .....	52
Parent Functioning Measures.....	58
Parenting Stress Index (PSI) (Table 6) .....	58
Beck Depression Inventory (BDI-II) (Table 6) .....	58
Weekly Family Functioning .....	60
Attendance .....	61
Group Goals.....	61
Parents' Satisfaction Questionnaire.....	63
Programme Evaluation .....	65

<b>Chapter 5: Discussion.....</b>	<b>67</b>
Main findings.....	69
Child behaviours.....	69
Weekly family functioning.....	71
Parent functioning.....	71
Group goals.....	71
Parent Satisfaction.....	72
Consideration of Potential Moderators.....	72
Multiple Systems Intervention.....	72
Home Environment.....	72
Social Isolation.....	73
Parent Commitment.....	74
Time To Change.....	74
Effect on Non ADHD Siblings.....	74
Relationships in the Family.....	75
Group Dynamics.....	75
The Incredible Years Parent Training Programme.....	76
Programme structure and order of topics.....	76
Effective Behaviour Modification Strategies.....	76
Coping Model and Personal Skills.....	77
Variety of Learning Techniques.....	78
Facilitator Input.....	78
Videotape Modelling.....	78
Rehearsal and Feedback.....	79
Home Activities and Follow Up.....	79
Community Based.....	79
Limitations of current research.....	80
Future Research.....	81
Clinical Implications for the community.....	82
Conclusion.....	83

<b>References.....</b>	<b>84</b>
<b>Appendices.....</b>	<b>90</b>
A. DSM IV Criteria for ADHD .....	90
B: Parenting Pyramid.....	91
C Interview Schedule.....	92
D. Daily Child Behaviours .....	102
E. Participants Weekly Measures .....	103
F. Group Goals.....	104
G. Parent Satisfaction Questionnaire.....	105
H. Information Sheet .....	112
I. Consent Form .....	114
J. Incredible Years Evaluation.....	115
K. Participants Comments .....	116

## *List of Tables*

Table 1: Programme Content.....	35
Table 2: Conners' Parent and Teacher Scores.....	39
Table 3: Child Behaviour Check List (CBCL) Parent and Teacher Scores.....	40
Table 4: Parent Scores on Strengths and Difficulties Questionnaire.....	41
Table 5: Parent Scores on Conners' Subscales.....	45
Table 6: Parenting Stress Index and Becks' Depression Inventory.....	59
Table 7: Participant Attendance.....	61
Table 8: Participant Scores on Group Goals.....	62
Table 9a: Parent Satisfaction Questionnaire on Overall Programme.....	63
Table 9b: Parent Satisfaction Questionnaire on Usefulness of Skills.....	64
Table 10: Participant Responses to Programme Evaluation.....	65

## List of Figures

Figure 1:	Child A Family Functioning.....	46
Figure 2:	Child A Positive Behaviours.....	46
Figure 3:	Child A Negative Behaviours .....	46
Figure 4:	Child B Family Functioning.....	49
Figure 5:	Child B Positive Behaviours.....	49
Figure 6:	Child B Negative Behaviours.....	49
Figure 7:	Child B Positive Behaviours Follow up.....	50
Figure 8:	Child B Negative Behaviours Follow up.....	50
Figure 9:	Child C Family Functioning.....	53
Figure 10:	Child C Positive Behaviours.....	53
Figure 11:	Child C Negative Behaviours.....	53
Figure 12:	Child C Positive Behaviours Follow up.....	54
Figure 13:	Child C Negative Behaviours Follow up.....	54
Figure 14:	Child D Family Functioning.....	56
Figure 15:	Child D Positive Behaviours.....	56
Figure 15:	Child D Negative Behaviours.....	56
Figure 16:	Child D Positive Behaviours Follow up.....	57
Figure 17:	Child D Negative Behaviours Follow up.....	57

# CHAPTER 1: BACKGROUND OF THE STUDY

## Introduction

Attention-deficit/hyperactivity disorder (ADHD) is a commonly diagnosed behavioural disorder of childhood that is characterised by symptoms of inattention, hyperactivity, and impulsivity. There has been a dramatic increase in diagnoses of ADHD in recent years (Barkley, 1999). Currently in New Zealand, it is the “most common diagnosis given to children in child and adolescent mental health services” (Ministry of Health, 2001, p.3).

Such data make it clear that ADHD is a major health problem. Prevalence rates for ADHD in New Zealand are around 5% of school-aged children with rates for boys three times higher than for girls (Ministry of Health, 2001). Children with ADHD have pronounced difficulties and impairments across multiple settings such as in the home, at school, and with their peers. They can also experience long-term adverse effects on academic, vocational, psychosocial, and psychiatric outcomes (Barkley, 1998). Children with ADHD use mental health services more frequently than the general population and the cost of caring for these children in primary paediatric settings is estimated to be at least twice that of the general population (Power, Russell, Soffer, Blom-Hoffman & Grim, 2002). The impact of difficult child behaviour on family functioning has a compounding effect on the physical, emotional, and psychological welfare of the child, the family unit, and the wider community.

Recent research in New Zealand has found that parents of children with ADHD experience elevated stress levels, are subject to more externalising child behaviours, and have less effective parenting practices relative to parents of children without this disorder (Treacy, 2002). To address parenting issues and these other factors, it is essential to have an effective low cost intervention strategy to help improve the overall functioning of families of children with ADHD.

## **History and Diagnosis of ADHD**

The assessment and treatment of ADHD has been evolving since the middle of the 19<sup>th</sup> century (Anastopoulos & Barkley, 1992). At the turn of the century, references to children who lacked behavioural inhibition related to a belief that they had deficits in moral control (Barkley, 1999). Following an encephalitis epidemic in North America in 1917, children were observed to be motorically overactive, inattentive, and aggressive with a variety of emotional and learning difficulties and the disorder became known as ‘Postencephalitic Behaviour Disorder’ or ‘Brain Injured Syndrome’ (Barkley, 1999). Between the 1950s to mid 1960s, the concept of a clinical disorder resulting from brain damage was gradually discarded and replaced with the term ‘minimal brain dysfunction’ (Rapport, 1998). This distinction between brain damage and brain dysfunction was important as it indicated an understanding that symptoms were due to central nervous system (CNS) dysfunction as opposed to brain damage. The DSM II (APA, 1968) introduced the term ‘hyperkinetic reaction of childhood’ suggesting that the gross motor activity best represented the core symptoms of the disorder. During the 1970s, research focused on attention deficits as core symptoms. Subsequently, there was a dramatic shift in diagnostic emphasis as reflected in the DSM III (APA, 1980), with the introduction of Attention Deficit Disorder (ADD), with or without hyperactivity (ADHD, ADD, respectively) (Rapport, 1998). Further research (e.g. Lahey, Pelham, Schaughency Atkins, Murphy, Hynd, Russo, Hartagen & Lorys-Vernon, 1988) focused on whether or not inattention, impulsivity, and hyperactivity were independent domains. This effort culminated in the classification of subtypes identified in the DSM IV (APA, 1994): Predominately Inattentive; Predominately Hyperactive-Impulsive; or Combined type. More recently, Barkley (2000) suggested that the most important issue is not the symptoms per se but rather what the symptoms have in common, that is, lack of behavioural inhibition. For children with “ADHD the normal development of self regulation and executive functions related to it are being impaired by the core problem with behavioural inhibition” (Barkley, 2000, p.12). This means children are unable to regulate their behaviour in response to situational demands, whether it be their attention span, impulse control, or motor activity (Barkley, 2000).

The current classification in the DSM IV (Appendix A: DSM IV) identifies ADHD as a persistent pattern of inattention and/or hyperactivity more frequent and severe than is

typical of children at a similar level of development. Some symptoms must have been apparent before 7 years of age and have been obvious for several years. Symptoms must be present in at least two settings and interference with developmentally appropriate functioning must occur in social, academic, or work settings. The disorder should not be better accounted for by any other mental disorder (Kaplan & Sadock, 1998).

Rapport (1998) describes ADHD as a developmental disorder that is probably present from birth and therefore most likely has a genetic link. It has an early onset and is pervasive across situations and settings. Children tend to be “out-of-sync with the environmental demands and expectations, especially in situations that require careful sustained attention and protracted effort at tasks that are not particularly interesting or stimulating to the child” (Rapport, 1998, p. 71).

### **Aetiology**

There has been considerable historical controversy over the aetiology of ADHD. The debate has consistently identified neurological factors, in addition to genetic, as the most likely contributors to the disorder. Other less common factors include developmental, psychosocial, and environmental characteristics. While there is no agreement on the exact cause of ADHD, it is currently accepted that no single factor is responsible (Barkley, 1999; Carr, 1999; Davison & Neale, 1998; Wolraich, 2000).

#### **Heredity and Genetic Factors**

Twin studies have indicated that a predisposition for ADHD is likely to be inherited. Research has shown that at least 80 -90% of the variance in core symptoms is the result of genetic factors. Siblings of children with ADHD have a 32% risk of having the disorder (compared to the average risk of 3-5%) and children of parents with ADHD a 57% risk (Barkley, 2000). While no single gene has been identified, Barkley (2000) suggests there are several genes associated to a greater extent than normal with the development of inhibition and self-regulation. However, when these genes form in a different combination, it results in less-than-normal inhibition and self-control. Barkley argues that this creates a “cluster of symptoms that occurs at one end of the continuum representing the varying ability of the population to sustain attention, resist distraction,

inhibit behaviour, and self-regulate” (Barkley, 2000, p. 11). Those who fall at the low end of the continuum are thought to be at greater risk for ADHD.

#### Neurological

Neuro-imaging research has shown that ADHD may be associated with neurological deficits in the frontal regions of the brain (striatum, globus pallidus, cerebellum) reducing cerebral blood flow to these regions and affecting executive functioning and behavioural inhibition (Barkley, 2000). These regions may be less active than normal so they are unable to inhibit hyperactive, impulsive, and inattentive behaviours. While there is no evidence of gross structural damage in the CNS, ADHD is predictably associated with other disorders that are affected by brain function such as learning disorders (Kaplun & Sadock, 1998).

Neurochemical imbalances or deficiencies may also play a role. The neurotransmitters dopamine, serotonin, and noradrenalin have all been implicated as essential components for effective attention and impulse control. Imbalances or deficiencies in these neurotransmitters may be responsible for symptoms of inattention, impulsivity, and hyperactivity (Holowenko, 1999). The neurotransmitter hypothesis has been mildly supported by the positive impact that stimulant medication has on symptoms of ADHD, with 60-90% of children with ADHD responding to psycho stimulant medication in the short term (Carr, 1999).

#### Psychosocial

Twin studies have shown that for most children, ADHD is not likely to be caused by social factors alone. However, they can certainly contribute to its degree of manifestation, how successfully a child lives with ADHD, and the degree of risk for further developing oppositional defiant disorder, conduct disorder, anxiety, depression, and other disorders (Barkley, 2000). Factors associated with increased risk in the family system include parental psychological problems such as depression, aggression, alcohol abuse, marital discord, low levels of parental warmth, and coercive parent-child interactions. In the wider social context, risk factors include low socio economic status (SES), institutional upbringing, peer relationship problems (including association with antisocial peers), and relationship problems with school staff (Anastopoulos, Shelton, DuPaul, & Guevremont, 1993; Carr, 1999; Cunningham & Barkley, 1979)

## Environmental

There are numerous environmental factors that may predispose individuals to ADHD. In a recent meeting of the American Psychiatric Association, it was reported that the risk of developing ADHD is increased two-fold by either maternal smoking or alcohol abuse and that low birth weight, which may have both genetic and environmental causes, is also associated with ADHD (Korn, 2001).

## Summary

There is a growing consensus that no single factor can account for the complex and diverse characteristics of children with ADHD. It is more likely that a variety of biological and psychosocial factors interact to give rise to the syndrome and that the symptoms are at least partially maintained by neurological processes especially those involved in cognitive and motor responses. Symptoms may also be exacerbated by problematic relationships within the family, peer group, school, and community (Carr, 1999).

## **Behavioural Characteristics of Children with ADHD and their Parents**

Children with ADHD are typically unable to inhibit their motor responses and are not able to think through the consequences of their actions (Barkley, 1998). They have short attention spans, are easily distracted, excitable, active, easily frustrated, and unable to wait or work for a delayed reward. They have working memory deficits, are not able to retain instructions or cope with multiple instructions, and they frequently fail to comply with requests and rules. They cannot screen out distractions and are often off task. Many children with ADHD also have difficulty planning, remembering, and organising.

## Co-morbidity and Developmental Pathways

Children diagnosed with ADHD often have a range of problems including poor social skills, learning difficulties, and a high incidence of co-morbid disorders. Up to 50% have serious interpersonal problems and many do not have close friends; as many as 25-50% have significant learning difficulties and up to 90% under perform at school, increasing the chance of educational failure (Barkley, 2000). In addition, from overseas research, as many as 40-67% have Oppositional Defiant Disorder (ODC); 20-56% go on to develop Conduct Disorder (CD); 25-30% have major depression; 25% have one or more anxiety disorders; and 33% have more than one co-morbid disorder (Barkley,

2000; Korn, 2001; Power et al., 2002). Similar figures were found from a large community study in New Zealand; 47% of children with ADHD also had ODD or CD; 26%, anxiety or phobic disorders; and as many as 18%, two or more co-morbid conditions (Anderson, Williams, McGee, & Silva, 1987).

Recent findings also indicate the possibility of a developmental pathway leading from ADHD to ODD and CD (Loeber, Keenan, Lahey, Green, & Thomas, 1993). Early childhood behaviour, including ADHD with aggression, is one of the most robust predictors of later antisocial status (MOH, 2001; Kazdin, 1985). The substantial evidence that a subset of young children with ADHD often progress into more antisocial behaviour has important implications for early intervention strategies to intercept this progression. "If having ADHD greatly increases the risk for developing ODD or CD at a later point in time, then it would seem to be of utmost clinical importance to begin treatment as soon as possible to reduce this risk among children not yet affected by these co-morbid conditions" (Anastopoulos, 1998, p.36).

Related to conduct disorder, there is evidence to show that children with ADHD are at increased risk for substance abuse (Barkley, 2000; Cunningham and Barkley 1979; Loeber et al., 1993). Recent studies have also found that those with untreated ADHD had much higher rates of later substance abuse compared with both treated ADHD participants and controls (Wilens, Biederman, & Spencer, 2002). It appears the successful treatment of ADHD in childhood or adolescence has protective effects with respect to the development of later substance abuse. In light of these findings, it is understandable that the Ministry of Health Guidelines in New Zealand (2001) concluded that "ADHD should be considered a major public health problem of childhood ...[that] requires initiatives to reduce long-term disabilities as much as possible as well as to allow individuals to achieve their full potential" (p10).

#### Long-term Effects of ADHD

It is estimated 30%-80% of children with ADHD continue to be impaired by their symptoms or still meet the diagnostic criteria as adolescents (Barkley, 2000). Of these adolescents, 32-50% show a persistent pattern of conduct problems that puts them on a trajectory towards continuing difficulties at school and adult psychopathology including substance abuse and antisocial personality disorder (Rapport, 1998).

While ADHD is primarily a childhood disorder, there is a 70% chance of retaining the diagnosis into adulthood (Barkley, 2000). Adults with ADHD are more likely to have difficulties in employment, require greater job supervision, are less able to work independently and often do not work to their full potential. They continue to behave more impulsively, aggressively, and emotionally in the workplace and more frequently change jobs compared with their peers. They also have more difficulty with other areas of adult life including motor vehicle accidents and speeding infringements, interpersonal relationships, spending and budgeting, sexual functioning, and managing legal substances such as tobacco and alcohol (Barkley, 2000).

Without appropriate intervention, it appears that those with ADHD have less opportunity to live a fulfilling life and will have limited ability to contribute positively to the community in which they live. Implications for treatment planning means there must be less relative emphasis placed on simply reducing ADHD symptomatology (attention, hyperactivity, and impulsivity) and more emphasis on skill development focused on reducing the risk of developing conduct disorder and improving academic success (Anastopoulos, 1998; Rapport, 1998). Barkley (2000) emphasises the importance of treatment targeting 'points of performance' where desired behaviour is to occur. Targeting intervention to support the functioning of the family means resources are directed towards strengthening the home environment (point of performance), to shape and reinforce appropriate behaviour change and maintain it over time. The next section covers the main treatment options.

### **Treatment Options for ADHD**

A wide variety of treatments have been used for ADHD, including psycho-stimulants, psychosocial treatments, and other less used treatments including dietary management, herbal and homeopathic treatments, biofeedback, meditation, and perceptual stimulation/training. Studies on the efficacy of treatments support the use of psycho-stimulant medication, psychosocial treatments, or a combination of these as the most effective treatment options (Barkley, 1999). Recent research (The National Institute of Mental Health Collaborative Multimodal Treatment Study of Children With Attention-Deficit Hyperactivity Disorder (MTA), 1999) studied 579 children with ADHD who

were randomly allocated to one of four groups, (i) medication alone, (ii) psychosocial/behavioural treatment (including parent education), (iii) combined medication and psychosocial and (iv) community care control group. Results of this study showed that subjects receiving medication (with or without psychosocial/behavioural treatment) demonstrated significantly superior responses on measures of ADHD symptoms, and the combined treatment group demonstrated consistently superior responses to treatment on measures of academic, social, emotional, and family functioning (MTA, 1999). These findings suggest that in the area of family functioning, the combined treatment has an advantage over medication alone, particularly with regard to improving social skills and educational tasks. Additionally, children in the combined treatment were managed on lower doses of medication compared to the medication only group, and parental satisfaction was greatest for the psychosocial/behavioural group (MTA, 1999). Parent training is therefore an important component in the management of children with ADHD (Cunningham, 1999b). Consequently, this review focuses on psycho-stimulant and psychosocial interventions with an extended focus on parent education.

#### Pharmacological Intervention

Psycho-stimulant medication such as methylphenidate has a significant impact on the symptomatology of ADHD in the short term. It is regarded as the single most effective treatment in the clinical management of children with ADHD (Barkley, 1999; Ministry of Health, 2001; MTA, 1999; Wienberg, 1999) but has so far failed to produce long-term results (MTA, 1999; Pelham, Wheeler, & Chronis, 1998). While 60-90% of children with ADHD respond to psycho-stimulants with an improvement in ADHD symptoms and improved social behaviour, these positive effects dissipate when treatment ceases (Carr, 1999). Medication may reduce ADHD symptoms but is much less effective in decreasing symptoms of aggression and defiance, does not alter the negative views of peers, nor does it assist with a range of social skill deficits. While behaviour is often improved, 'it is not even close to being normalised' (Pelham et al., 1998, p. 191).

Along with short-term improvement in symptomatology, there is some indication from recent studies that psycho-stimulant medication is also associated with short-term improvement in academic achievement (Ministry of Health, 2001). This is thought to be

the result of decreased ADHD symptoms and an increased ability to concentrate, rather than learning new skills. To maximise the opportunity provided by medication for academic progress, the classroom teacher needs to be informed and trained in ways to restructure the classroom environment, and how to modify teaching styles to meet the specific learning needs of the child with ADHD.

Of the range of psycho-stimulant medication available, methylphenidate (New Zealand trade names include Rubifen and Ritalin) is most often the medication of choice. Its therapeutic action is thought to be due to increasing the levels of dopamine in the brain and improving related motivational processes. This is thought to improve the child's ability to screen out noise and distractions, and increase ability to focus and maintain attention. Some research suggests that behavioural improvements with methylphenidate also have beneficial effects on the quality of parent-child relationships due to more frequent compliance to parental commands, reduced off-task behaviour, and less defiance (Anastopoulos, DuPaul, Barkley, 1991). However, other research (Eyberg & Robinson, 1982; Mash & Johnston, 1990) concludes that while psycho-stimulants positively affect the behaviour of children with ADHD, families of children with ADHD are often dysfunctional in multiple domains (e.g., maternal distress, paternal alcohol use, inappropriate parental discipline). There is no evidence to suggest that addressing the child behaviour through the use of psycho-stimulants will resolve family functioning problems in the long-term (Pelham et al., 1998).

While medication improves symptomatology for many children with ADHD, it is not an option for every child with ADHD. Up to 10-20% of those taking medication do not show clinically significant improvements in their primary ADHD symptoms (Anastopoulos et al., 1999). Additionally, some children who do have a positive response to medication experience side effects that are severe enough to preclude further use. Side effects include decreased appetite, insomnia, headaches, stomach aches and other somatic symptoms, increased tension, growth inhibition, and increased heart rate or blood pressure (Holowenko, 1999). Some experience 'rebound effect': a marked deterioration in behaviour with increased irritability, noncompliance, emotional sensitivity, and weepiness during 'washout' periods. There are also some rare cases of children developing tics (Anastopoulos et al., 1991).

Reasons for seeking treatment alternatives to medication include parental preference to avoid the use of any form of medication or to restrict its use for a short period. In fact, findings from one study revealed that the vast majority of ADHD children prescribed stimulants received a total of only one or two months worth of prescriptions (Pelham et al., 1998). It would appear that many parents chose not to have prescriptions refilled.

While medication is effective in the short term for many children with ADHD, positive effects of psycho stimulants may be a useful means of initiating improvements in a dysfunctional family system. This may help families then be more amenable to other types of intervention (Schachar, Taylor, Wieselberg, Thorley & Rutter, 1987).

Even for those children who take medication regularly, an alternative non-pharmacological treatment is often beneficial. Psychosocial interventions can assist children with ADHD, their parents and others (e.g. teachers) to manage behaviour symptoms, social interactions, inter-personal relationships, and family functioning. Psychosocial skills are also beneficial for those children who have conditions that coexist with ADHD such as oppositional- defiant disorder, conduct disorder and learning difficulties, each of which is not easily addressed using medication.

#### Psychosocial Interventions

The aim of psychosocial treatment is to provide support, education and guidance to the parents, teachers, and child in order to improve functioning in the family, school, and social settings. Psychosocial training includes parenting skills, communication, problem solving skills, and stress management along with information on the nature of ADHD, and how to respond positively to support the child to manage their symptoms. Greene and Ablon (2001) in their recent evaluation of the Multimodal Treatment Study for ADHD (MTA) report that “outcomes in ADHD may be governed less by the severity of a child’s symptoms and more by the manner in which the child and significant persons in the child’s environment react and respond to these symptoms” (p.119). Psychosocial interventions address both the symptoms, and the reactions and responses in various ways.

Psychosocial treatments are most effective when they are intensive, highly structured, tailored to the individual needs, closely monitored, and include a maintenance programme. This adds to the expense of providing treatments. However, if they can effect positive long term changes, then their short term expenses may be justified (Pelham et al., 1998). While there is little empirical evidence for the efficacy of individual child therapy in the treatment of ADHD, both behavioural parent training and classroom interventions are empirically supported treatments for ADHD (Barkley, 1999; Pelham et al., 1998).

#### Combined Pharmacological and Psychosocial Treatment

Although stimulant medication is reported to be the single most effective treatment for ADHD (Barkley, 1999; MTA, 1999) reliance upon pharmacological therapy alone is not sufficient, given that the disorder is complex and stimulant medication has limited long-term efficacy. The lack of consistent improvement beyond the core symptoms of ADHD suggests the need for combined treatment strategies that utilise medication as well as psychosocial interventions (Pelham et al., 1998). This is reflected in the recommendations and treatment guidelines for the management of ADHD in New Zealand (Ministry of Health, 2001). Combined pharmacological and psychosocial treatments address not only the core symptoms of ADHD but the associated social, academic, and family factors as well.

### **Parental Factors**

#### Parental Stress and Dysfunction

Parenting is a difficult and challenging task (Herbert, 1995; Mash and Johnston, 1990). It is even more so for parents of children with ADHD, and they often struggle to provide a positive and constructive environment (Breen & Barkley, 1988; Mash & Johnston, 1990). Raising a child with ADHD creates extra stress on the family system (Treacy, 2002). Recent research in New Zealand identified externalising child behaviours and negative parent locus of control as two factors predicting this parenting stress (Treacy, 2002). Mash & Johnston (1990) also found mothers of children with ADHD were more depressed, socially isolated, and restricted in the parenting role compared to mothers of normal children. When parents are experiencing high levels of stress in their parenting role, they are more likely to make negative appraisals of their and their child's behaviour (Mash & Johnston, 1990). They often become overly

directive in their parenting, and view themselves as less skilled and less knowledgeable than other parents. Consequently, a vicious cycle develops.

### The Vicious Cycle

While parents often consider ADHD related behaviours unacceptable, few parents have the specialised parenting knowledge and skills necessary for bringing them under control (Anastopoulos et al., 1999). At the same time, many children with ADHD are unhappy. According to insights from formerly diagnosed children, family fights (usually about their behaviour), and being criticised were factors cited as contributing negatively to their childhood and adolescent years (Rapport, 1998). As parents become increasingly aware of their inability to resolve these child management issues (e.g. through inappropriate use of negative reinforcement, see later section), personal difficulties including sadness, frustration, guilt, increased stress, and marital strain begin or are exacerbated (Anastopoulos et al., 1993; Anastopoulos, Smith & Wien, 1999; Cunningham & Barkley, 1979). As these difficulties increase, parental ability to make change is diminished and the child's dysfunctional behaviour may then escalate in a vicious cycle (Herbert, 1995).

Therefore using a combination of psycho-stimulant medication and psychosocial skills to address both the symptomatology of ADHD for the child, as well as the social interactions and behavioural patterns within the family, is likely to provide the best outcomes for families of children with ADHD. Parent training is one important vehicle available to provide this psychosocial assistance.

### **Development of Parent Training Programmes**

The parenting children receive is a cornerstone for the development of their emotional, interpersonal and social well being (Reder & Lucey, 1995). Reder and Lucey also maintain the quality of relationships children form with others (including their own children when they become parents) will be shaped by their own caretaking experience. The way parents bring up their children has become an increasing matter of public and professional concern especially in the rising tide of antisocial behaviour in children and young people (Scott, 1999).

Parent training as an intervention can be traced to the 1960s and is regarded as an effective multifaceted format that not only is capable of modifying negative behaviours of children but also strengthening the family unit (Briesmeister & Scharfer, 1998). Parent training is based primarily on the principles of social learning theory and in particular behavioural and cognitive approaches. It offers parents resources for enhancing their skills in the demanding task of parenting and aims to teach parents how to modify dysfunctional behaviours of the child and family (Anastopoulos et al., 1993; Barkley, 1999; Eyberg & Robinson, 1982).

Since the 1980s, there has been an increasing recognition of the role of parents as co-therapist and effective agents of therapeutic change (Briesmeister & Scharfer, 1998). Effective parent training reaffirms the primary importance of the parent-child unit and provides parents with coping skills that will lead to less stressful lives both for themselves and for their children (Anastopoulos et al., 1999). When parents apply principles of social-cognitive learning and behavioural modification, their parenting strategies are expected to change along with child behaviour. In this way, the influence and impact on the child can remain after termination of formal therapy. The eventual goal is for the child to internalise self management so that the impact of parent training continues even in the parent's absence.

There is some evidence both overseas and in Australasia that providing psychoeducation to parents of children with ADHD helps reduce stress, confusion, and conflict in the family (Hinshaw, 1994; Treacy, 2002). For example, one study in Australia using the Triple P- Positive Parenting Program with preschool children with disruptive behaviour and attentional/hyperactive difficulties resulted in lower levels of child behaviour problems, lower levels of dysfunctional parenting, and greater parental confidence than a waitlist control (Bor, Sanders, & Markie-Dadds, 2002).

Parent training can provide an understanding of the symptoms of ADHD and the effects on the child's ability to learn new skills and control impulsive behaviours. Parents are trained in areas including: how to give clear instructions, promote on-task behaviour and compliance with praise and positive attention, decrease intrusive and impulsive behaviours through alteration of antecedents and consequences, systematic rewards and

clear contingencies for misbehaviour; to recognise the importance of peer relationships; and to use naturally occurring opportunities to teach social skills.

Parent training programmes designed for children with ADHD must address the characteristics and symptoms of the disorder. The focus needs to be on improving self-control, compliance with rules, and building positive parent-child relationships. It is also necessary to address the different behaviour and needs of children with ADHD. They can become bored easily and lose interest quickly. This means consequences need to be changed periodically to keep them meaningful and motivating, and rewards need to be concrete and immediate to reinforce appropriate behaviour. In a recent review of parent training in ADHD, Power et al. (2002), concluded that parent training has generally proved to be effective in reducing the behaviour problems of children with ADHD, as well as reducing parent stress and improving parent self esteem.

The high prevalence of ADHD among parents of children with ADHD and other difficulties documented earlier, can make compliance with training programmes and the execution of interventions difficult (Eyberg & Robinson, 1982; Herbert, 1995; Mash & Johnston, 1990). For this reason, training must also address parental needs in order to strengthen their knowledge, skill base, and self confidence so that they can be effective in their role as parents.

The effectiveness of any parent training programme depends on its social validity. That is, it matters how the programme is perceived by those affected by it (e.g. parents, children, teachers). The goals, strengths, strategies, and outcomes must be viewed as fair, appropriate, and reasonable in terms of culture and personality characteristics. Power et al. (2002) reports that behavioural methods of intervention, particularly those that use primary positive reinforcement strategies tend to be highly acceptable to parents, children, and teachers. Social validity may be further enhanced with group applications in a community setting because of the opportunities for peer support and group problem solving in a non-clinic environment (Webster-Stratton, 1982).

Often families who need mental health services are not in the position to afford the cost. Fortunately, parent training is a cost effective therapy that has on going benefits for

family functioning. Group parent training has been found to be at least as effective as one on one intervention and is more cost effective (Power et al., 2002; Scott, 2001). The group format has the added advantage of reducing isolation and normalising parents' experiences and situations. Parents learn to collaborate in problem solving together, to express their feelings, and to support themselves and others in the group.

Parent training is a viable, empirically supported, and clinically tested approach for working with a wide range of childhood problems and dysfunctions (Briesmeister & Scharfer, 1998). Parent training has also led to improvements in various aspects of parental and family functioning, including decreasing parenting stress and increased parenting self esteem (Anastopoulos et al., 1993; Power et al., 2002). One such parent training programme is the Incredible Years Parent and Child Series developed by Carolyn Webster-Stratton (1999).

## **CHAPTER 2: THE INCREDIBLE YEARS PARENT TRAINING PROGRAMME**

### **Overview and Rationale**

Dr Webster-Stratton and her colleagues at the University of Washington's (USA) parenting clinic have developed the Incredible Years Parents, Teachers and Children Training Series. The series is designed to prevent, reduce, and treat behavioural problems among children ages 2-10 years and to increase their social competence. There are five programmes in the series: Basic Parent Training; Advanced Parent Training; Supporting Your Child's Education; Teacher Training; and Child Training. The series uses video based training for families at risk for abuse or with a history of abuse or child conduct problems. Research to develop and evaluate these programmes in different populations and a variety of cultural settings has involved over 1000 families during the past 20 years (Webster-Stratton, 1999). Data from six randomised treatment outcome studies involving clinic and non-clinic families indicate that parents who have taken the course are significantly better able to help their children reduce behaviour problems and increase pro-social skills. In addition, parents report they feel more confident and comfortable about their parenting skills and that improvements were maintained at follow up 1 and 3 years later for more than two-thirds of families (Webster-Stratton & Taylor, 1998: see later section for more specifics on research). The Incredible Parent Child Series is effective with parents from a variety of educational, socio economic levels and cultural groups in the US, Canada and Britain (Webster-Stratton, 1998, 2000). It has been translated into three languages, (English, Spanish & Vietnamese) and video vignettes include family members from African, Asian, Caucasian and Hispanic cultural groups (Webster-Stratton, 2000).

The Incredible Years Training Series has two long-term goals. First, it is to provide a comprehensive treatment programme for young children with early onset behavioural problems. Second, it is to provide a cost effective, community based prevention programme that families and teachers of young children can use to prevent children from developing behavioural and conduct problems (Webster-Stratton, 2000). The short term objectives for the parent programme are: to promote parental competence and

strengthen families; to increase parents' positive communication skills and reduce the use of criticism and unnecessary commands; to promote positive strategies; to improve parents' limit-setting skills by replacing negative physical behaviours with non-violent discipline techniques; to improve parents' problem solving skills and anger management; and to increase family support networks and school involvement (Webster-Stratton, 2000).

The *Incredible Years* is strongly influenced by Patterson's social learning theory and Bandura's observational learning. Patterson's "coercion hypothesis" has emerged from research and observations with out-of-control children. This hypothesis emphasises the importance of the family socialisation process where negative reinforcement plays an important role in developing and maintaining both the child's deviant behaviour and the parents' critical or coercive behaviours (Power et al., 2002). When the child does something aversive, mothers of problem children are twice as likely to respond passively (i.e. giving attention or giving in to demands) than they are to respond constructively by disciplining the behaviour. The immediate result is reinforcing for both the child and the mother. The child gets his/her way and the mother is spared further screaming or unmanageable behaviour. In this way, the child becomes operantly conditioned to be 'out-of-control' in order to get his/her way and the mother becomes similarly conditioned to avoid confronting the child's behaviour in order to avoid intensifying it (Berger, 1991). Of course, such a short-term solution creates long-term problems. Patterson also noted that in problem families, the other family members have a higher than average rate of aggressive behaviour, often responding to aggression with aggression in a way that sets up an escalating cycle. As this coercive process continues over time, the rate and intensity of parent-child aggressive interaction is thought to escalate. However, this cycle can be interrupted when parents implement contingency-management strategies to deal with children's misbehaviours (Pelham et al., 1998).

Bandura's theory emphasises that modelling is an integral part of social learning. We observe the behaviour of others and then pattern our own behaviour after it, particularly if the behaviour is reinforced. Modelling theories suggest that parents can improve parenting skills by watching videotaped examples of parents interacting with their

children in ways that promote pro-social behaviours and decrease inappropriate behaviours (Webster-Stratton, 2000).

The theories of both Bandura and Patterson posit that harsh and inconsistent parenting contributes in part to the development and maintenance of behavioural problems. Research is supportive of this theory (e.g. Griest, Forehand, Wells, & McMahon; Patterson & Stouthamer-Loeber, cited by Webster-Stratton & Herbert, 1993). This research also motivated Webster-Stratton to work with at risk families to train parents in supportive, non-coercive parenting skills while their children were still young, as a way to change what is often a poor prognosis. Early intervention is designed to help parents avoid the development of serious child behaviour problems before they result in peer rejection, well established negative reputations, school problems and academic failure (Webster-Stratton & Hancock, 1998).

People change as a result of interactions they have on a daily basis with one another. Consequently, when children misbehave and family functioning becomes disrupted, it is necessary to change the parents' behaviour as well as the child's (Webster-Stratton, 2000). This approach does not assume that either the child or parents are at fault, or that they are 'bad', nor does it assume that the parents are inept. If parents can learn to deal effectively with their children's misbehaviour and to model positive and appropriate problem solving and discipline strategies, then children can develop social competence and reduce aggressive and other problem behaviours at home and at school. The Incredible Parent Child Series trains parents in these principles, so they can then instil them in their children. In this way, parental confidence is promoted and families strengthened so that violence, child abuse, drug abuse and delinquency may be prevented or reduced.

### **The Specifics of Incredible Years Parent Training**

The present study used the School Aged Parent Training Programmes including Basic Parent Training, Advanced Parent Training and Supporting Your Child's Education Programme.

The Basic Parent Training Programme teaches parents interactive play, reinforcement skills, non-violent discipline techniques and problem solving. The emphasis is on creating and maintaining a positive parent-child relationship, so that the parent's interactions with their children become more positive and parents respond appropriately to specific child behaviours. Play and positive reinforcement are constant themes throughout the Basic Programme and underpin the discipline strategies taught to promote pro-social skills. The discipline strategies include limit setting, active ignoring, logical and natural consequences, timeout and problem solving. The parent-child relationship is visually presented in the Parenting Pyramid (Appendix B: Parenting Pyramid).

Follow up assessment of families who completed the Basic Parent Training showed that two-thirds maintained their initial improvements, both in parenting skills and children's behaviour, up to three years later (Webster-Stratton & Taylor 1998). An analysis of the data revealed that the children who relapsed came from families characterised by marital discord, spousal abuse, divorce, depression and lack of support. In light of this research, Webster-Stratton developed a broader-based Advanced Parent Training Programme to address other family risk factors such as depression, marital conflict, isolation and poor coping strategies (Webster-Stratton, 1994). It focuses on increased partner involvement, communication, parent support, problem solving, coping skills and depression management. While parent training cannot change the social circumstances many families find themselves in, these skills can help families cope more effectively with stress. The programme also encourages participants to develop support within the family and community. Previous research has indicated that single mothers who have contact outside the home fare much better in their parenting than mothers who have no contact (Dumas & Wahler, 1983, cited by Webster-Stratton, 1998).

Despite the documented links between underachievement, language delays, reading disabilities and conduct disorders, few attempts have been made to increase the effectiveness of parent training programmes by providing parents with training to assist academic skills (Webster-Stratton, & Taylor, 1998). The Program 'Supporting your Child's Education' addresses risk factors related to lack of academic skills by teaching parents how to support their child's learning, especially in reading and writing. It also

promotes connections between home and school by teaching communication skills and encouraging participation.

#### Programme Format

The Incredible Parent Child Series uses group discussion, facilitator teaching, videotape modelling, rehearsal, intervention techniques and home assignments. Approximately 60% of each session is group discussion, problem solving and support; 25% viewing vignettes; facilitator teaching and input the final 15%. The comprehensive manual enables the facilitator to follow the programme details and deliver it in the standardised format incorporating all the learning techniques.

#### Programme Delivery and Facilitator Role

There is a degree of clinical skill required to work with parents to ensure the efficacy of the programme. The underlying helping process adopted in the Incredible Parent Child Series is a collaborative model where parents are coached in a non blaming, supportive, reciprocal relationship based equally on using the facilitators' knowledge and the parents' unique strengths and perspectives (Webster-Stratton & Herbert, 1993). The facilitator works with participants to solve problems, reinforcing principles of behaviour modification and providing an understanding of child development. The facilitator also helps participants understand the role that unrealistic expectations and irrational beliefs have on parenting behaviour. The process of learning to recognise angry, helpless, self-critical, blaming, catastrophising thoughts and to substitute more adaptive and positive thoughts, empowers parents by showing them they can change their thought patterns as well as their behaviours (Webster-Stratton, 1998).

#### Videotape

The Incredible Years relies heavily on videotape modelling as an intervention, with examples of parents interacting with their children in ways that promote pro-social behaviours. This method was considered to be more accessible for families who are more visually or performance orientated. Furthermore, vignettes were expected to promote better generalisation by portraying a wide variety of models in a number of different situations (Webster-Stratton & Taylor, 1998). Videotapes are also used as a catalyst for group discussion and problem solving, where parents relate concepts from the tapes to their own situations.

### Rehearsal

Role playing and rehearsing newly acquired skills helps parents to implement these skills and to anticipate difficult situations more clearly. Role plays can give added insight into behaviours and can be used to help parents understand behavioural strategies from the child's perspective.

### Home Assignments

Each week has home assignments to reinforce newly acquired skills. This is an integral part of the learning process as it emphasises parents collaborating with the therapist by working at home to make change. The inclusion of homework assignments increases the efficacy and generalisability of the intervention (Webster-Stratton & Herbert, 1993).

## **Efficacy of Incredible Years Parent Training Programme**

### Treatment Studies

Webster-Stratton and her colleagues have used the Incredible Parent Child Series with over 1000 families of disruptive children aged 3 to 10 years. They found that the Basic and Advanced Programmes significantly improved parental attitudes, parent child interactions, reduced parental use of violent forms of discipline and reduced child behavioural problems (Webster-Stratton, 2000).

### Prevention Studies

The Incredible Parent Child Series has been trialed as a prevention programme in two studies with more than 600 Head Start families with preschool children. Results showed that parenting skills and social competence significantly improved compared to control (Webster-Stratton & Taylor, 1998). A further randomised controlled trial involved 35 non-clinic children (3-5 years old). Results showed that participants in the Basic Programme had improved attitudinal and behavioural changes compared to controls. Most changes were maintained at follow up (Webster-Stratton, 1982).

### Group Intervention

Additional research on 35 families of children with conduct problems showed that the Basic Programme was as effective as one to one therapy across a range of outcome indicators and five times more cost effective (Webster-Stratton, 1984).

### Advanced Programme

The effect of adding the Advanced Programme to the Basic Programme was trialed with 78 families of children with ODD/CD. Results showed that children of parents in the Advanced Training group showed significant increases in the total number of prosocial solutions generated during problem solving compared to the Basic Training group. Observations of parents' marital interaction indicated significant improvements in communication, problem solving, and collaboration in the Advanced Training group compared with parents who received only the Basic Programme. Parents in both groups reported that parent-child interactions improved and parental distress decreased (Webster-Stratton, 1994, 2000). Only one of the 78 families dropped out which attested to the perceived usefulness of both programmes (Webster- Stratton, 1994).

### Incredible Years and Eclectic Treatment

Taylor, Schmidt, Pepler and Hodgins (1998) evaluated the efficacy of Webster-Stratton's Incredible Years Parent Training Programme against an Eclectic Treatment (therapeutic approaches included combinations of ecological, solution-focused, cognitive-behavioural, family systems and popular press parenting) in a randomised controlled trial. They found that mothers in both treatments reported fewer child behaviour problems than mothers on the wait list and that mothers in the Incredible Years Parent Training Programme reported fewer behaviour problems and greater satisfaction with treatment than mothers in the Eclectic Treatment. These findings support the effectiveness of the Incredible Years Parent Training Programme for parents seeking to manage their children's behaviour and address other family functioning areas.

### **Summary and Long term Effectiveness**

The Basic Parenting Programme has been found to be effective in reducing child conduct problems by promoting social competence, reducing parents' violent methods of discipline, and improving their child management skills. The Advanced Parenting Programme has been shown to be effective for promoting parents' use of effective problem solving and communication skills, reducing maternal depression, and increasing children's social and problem-solving skills (Webster-Stratton, 1994). Longer term follow up with various study populations confirmed that parent training

had sustained effects for up to five years, for at least two thirds of families (Webster-Stratton & Hancock, 1998).

### **The Present Study**

There have been many studies that have used a parent training model, mainly for disruptive behaviours. However, not many have examined the efficacy of parent training with children specifically identified as having ADHD per se (Anastopoulos et al., 1999). While there are numerous parent training programmes available, few have been as well researched and empirically supported as Webster-Stratton's 'The Incredible Years' Programme. This programme has been effective in the USA, Canada, and Britain in the treatment of noncompliant and younger children at risk for conduct disorder as well as those with ADHD (Webster-Stratton, 1994). It is cost effective and has beneficial effects on the functioning of the whole family.

While the Incredible Years has efficacy for overseas, it has not been trialed in New Zealand. A multiple baseline across participants experimental design was employed with four research participants receiving treatment in a group with five other parents not participating in the research.

The aim of the present study was to assess the impact of the Incredible Years Parent Training Programme on the functioning of these four families. It was hypothesised that child, parent, and family functioning measures would improve with the treatment programme and that the improvement would be maintained at follow up.

## CHAPTER 3: METHOD

### Design

The study consisted of four single case studies using a multiple baseline across participants design. Participants had varied baseline periods before commencement of treatment. Family 'A' began collecting daily child behaviour measures and weekly family functioning measures 4 days prior to treatment commencement, family 'B', at 16 days; family 'C', 17 days; and family 'D', 22 days prior to treatment. The daily and weekly baseline measures provided information on family and child functioning prior to intervention. Data from this continuous assessment served as a basis for making predictions about future performance. Extrapolations about the likely direction of performance provided implicit predictions about what performance would be like (Kazdin, 1998). Introducing treatment at different points in time on the baseline allowed for the demonstration of a possible effect of the intervention. Child behaviours were collected daily during baseline, across the twenty week treatment period, and again for a 2 week period at 4 month follow up. Family functioning scores were collected weekly beginning at baseline and continuing during treatment, and again at 4 month follow up. Child behaviour and parent functioning measures were collected at pre-treatment, post-treatment and at 4 month follow up. Trends in the continuous data were identified to assess the impact of treatment over time. Other data collected at pre-treatment, post-treatment and at 4 month follow up identified any differences in the overall magnitude and rate of change. At post-treatment, evaluations included additional satisfaction and programme evaluation measures.

### Participants

Participants were four parents whose children met the Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM IV) (APA, 1994) diagnostic criteria for Attention Deficit Hyperactivity Disorder (ADHD). They were recruited through the Child and Adolescent Mental Health Specialist Services (CAMHSS) of Tauranga Hospital and agreed to participate in a 20 week parent training programme, 'The Incredible Years Parent Child Series' developed by Webster-Stratton (1981, 1994).

Participants were part of a group of nine parents who attended the training programme. Two group members only attended the first 10 sessions, and the remaining seven participants (4 research participants and 3 non research participants) completed the 20 sessions.

All four participants were of European descent, solo mothers, with boys diagnosed with ADHD. They had all reported experiencing depression, had abused drugs and alcohol in the past, and three of the four participants identified psychiatric history in their wider family. Participants reported no difficulties during their pregnancy and stated that their children's developmental milestones were normal.

Participant A: Mother of child A.

Participant A was a 31-year-old Pakeha solo mother of five children. She left school at age 15 years to marry and have children and has had no further education or training. She described four broken relationships with children from each relationship. The eldest daughter (11 years) is living with the child's father and the other four children live with participant A. Child A (aged 6 years) has an older brother aged 7 years and two younger siblings, a brother aged 3 years and a sister aged 15 months. Participant A reported having no special hobbies or interests, but she visited her parents regularly. They live locally and are reportedly supportive. Participant A recalled that by age two child A's behaviour was different from the other children and, by age of 3 ½ years, she could not take him out. She described him as a loud, boisterous boy, who would 'break toys and throw things and, at times, seemed to have no empathy or insight into other's feelings'. She reported that he was also anxious and when so, would often wring his hands. She also reported that he has significant problems at school that resulted from being bullied. He would often lie, run away, cry, yell, and be aggressive towards her when she tried to leave him at school. Child A likes gardening and helping with the cooking. Participant A expressed concern that his behaviour was deteriorating and his level of aggression increasing. Teacher reports indicated that he was behind in all academic areas and described him as an anxious child who is 'defiant, yet sensitive, has poor social skills, talks excessively, is loud and boisterous'.

Family functioning areas she identified to work on during the programme were: family stability, family working as a team, and coping with stress. The child functioning areas of focus for her were: going to school, disruptive behaviour, tantrums, and having a bath without disruption.

#### Participant B: Mother of child B

Participant B was a 48-year-old Pakeha unemployed solo mother, who had 2 years secondary schooling and has had intermittent employment. She separated from child B's father before child B's birth and described the father as a 'no hoper' with whom she has little contact. She has two adult children who have left home and one son aged 15 years who now lives with her adult daughter. Participant B described her relationship with her daughter as amicable and mutually supportive. This is particularly helpful for participant B who reports that she has a social phobia and experiences panic attacks when she is out in public. Participant B enjoys pottery but has not been involved in this for some years and reports no other interests or hobbies. Child B (aged 8 years) reportedly likes to fish, play sport, and skate board but spends much of his spare time playing his 'Game Boy'. Participant B described her son as helpful, kind, and loving but she found it difficult to handle his mood swings and aggressive behaviour. At times, he has run away from home and school. Her main area of concern was his erratic behaviour and his attitude towards others. Teacher's report described his behaviour as 'rude, off task, explosive and unpredictable'. In addition, the teacher reported he has few social skills at school, seems unable to make friends, and is behind in all curriculum areas.

Family functioning areas she identified to work on during the programme were: family confrontation, co-operation, and coping. The child functioning areas of focus for her were: temper tantrums, throwing, kicking and breaking things, mood swings and running away.

#### Participant C: Mother of child C

Participant C was a Pakeha solo mother aged 31 years with three children. Child C (aged 8 years) is the middle child with an elder sister aged 12 years and a younger sister aged 7 years who was adopted by a relative at birth. Participant C was also adopted and described her own childhood as violent and disrupted. She described 5 years in foster

care due to her adoptive mother's violence. Her adoptive father then raised her alone for 10 years before she went to a Girls' Home and School. She was hospitalised after a suicide attempt at 17 years of age. She continues to have a close relationship with her adoptive father but not with other family members. Her own marriage was described as violent and ended three years ago. She has had part time cleaning and garden employment over the past two years. She described little contact and no support from the child's father. Participant C reported no special hobbies or interests outside of the home and was not involved in any regular group. Child C enjoys fishing and outdoor activities. Participant C reported that he has wild mood swings and become aggressive, disobedient, was cruel to animals, and had frequent verbal outbursts of abusive language. She feared that he would become a teenage delinquent but his behaviour had improved somewhat since beginning medication two months ago. Teacher comments concerning current functioning included 'lack of attention and concentration, hyperactive and provoking others'. The teacher reported that he is behind in core curriculum subjects (reading, writing and mathematics) but 'loves' art, is a good athlete and is generally honest.

Family Functioning areas she identified to work on during the programme were: yelling, self control, and positive family relationships. The child functioning areas of focus for her were: aggression, verbal abuse, disobedience, and cruelty to animals.

Participant D: Mother of child D

Participant D was a Pakeha solo mother aged 31 who completed secondary school and was working part time as a waitress. She did not have a close relationship with her own family and reported that they are now spread throughout New Zealand. Her partner left six months previously and while she had some friends, she reported feeling lonely and bored. She reported having no hobbies or interests and spending large amounts of time on the internet. Child D (aged 8 years) is her only child and she described him as 'physically strong with no idea of his own strength, he doesn't listen, is easily distracted, and has to be the boss. He likes to go fishing and plays soccer at school'. Teachers' comments included 'forgetful, doesn't listen, fails to complete tasks, is often inattentive, easily distracted and has occasional temper outburst but is not excessively

restless or overactive'. During the interview, she appeared both timorous and lacking in self-confidence.

Family functioning areas she identified wanting to work on during the programme were: feeling trapped, handling conflict, and being decisive. The child functioning areas of focus for her were: not listening, answering back, name calling, and temper tantrums.

### Children

Children were male aged between 6 and 9 years and all were Paheka. They all met the DSM IV criteria for ADHD. The diagnosis was made by a child psychiatrist supported by parent and teacher ratings on the Child Behaviour Check List (CBCL) and the Conners' Rating Scale (Conners) scales. The children were all on stimulant medication monitored by a psychiatrist and a case manager. All children had major behavioural difficulties in the home and school environment, including the maintaining of friendships. Additionally, they all experienced a number of learning difficulties, were behind in reading and writing skills for their age but all also apparently enjoyed drawing and creative activities. All children had aspirations for their future and wanted to be a builder (child A), policeman (child B), fisherman (child C) and fireman (child D).

### Assessment

The purpose of this study was to examine the effect of parent training on the functioning of these families whose children had an established diagnosis of ADHD. Family functioning was assessed from information in the pre treatment interview schedule and measures of both child behaviour and parental functioning.

### ADHD Diagnosis

A child psychiatrist carried out a full psychiatric assessment to confirm the diagnosis of ADHD for children referred from the community. The diagnosis was established according to the criteria set out in the DSM IV (APA, 1994), (see Appendix A: DSM IV Diagnostic Criteria for Attention- Deficit/Hyperactivity Disorder) and was supported by interview information and observation, along with parent and teacher comments and scores on the CBCL and Conners' Rating Scales.

## Interview Schedule

Aspects of family functioning were assessed using information from an initial interview conducted by the researcher. The interview schedule was developed from a generic schedule used for clinical assessment of clients and their families at CAMHSS.

Information collected included demographic data, developmental history, educational background and family history (Appendix C: Interview Schedule).

## Child Behaviour Measures

Child behaviour was assessed from parent and teacher rating scores on the Child Behaviour Check List (CBCL/4-18), (Achenbach, 1991); Conners' Parent and Teacher Rating Scales, (Conners, 1997) and the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997). In addition, parents collected daily records of child behaviour for varying baseline periods prior to the commencement of the training programme, throughout the 20 week treatment period and for a 2 week period at 4 month follow up.

### Child Behaviour Check List CBCL/4-18

The CBCL/4-18 is a general measure of child and adolescent emotional and behavioural functioning. It is designed to record, in a standardised format, children's competencies and problems as reported by their parents/caregivers and teachers. The CBCL/4-18 is a revised version of the original instrument developed by Achenbach & Edelbrock (Achenbach, 1991). The checklists and syndromes were empirically derived from repeated and comprehensive analyses of parent and teacher ratings of children's behaviours and have become a standard against which many other clinical decision-making tools are compared (Doll, 1998; Furlong & Wood, 1998). The CBCL /4-18 was re-normed to include 17-18 year-olds and some wording and behavioural syndrome subscales were adjusted based on factor analytic findings. Items are clustered into emotional and behavioural syndromes and all items discriminate well between 'referred' and 'non-referred' children (Furlong & Wood, 1998). For each syndrome, standardised *T* scores are derived. A total  $T \geq 67$  has been consistently found to significantly discriminate between referred and non-referred children. Internalising and externalising scores of  $T \geq 65$  are said to be in the clinical range. Reliability and validity are well established (Achenbach, 1991).

### Conners' Rating Scales –Revised (L)

The revised Conners' Rating Scales are a culmination of 30 years of research on childhood and adolescent psychopathology and problem behaviour. The revised forms were normed based on a sample of over 8000 children and included a wide range of demographic groups from North America. These revisions enhance the original set of measures that have long been the standard instrument for assessing ADHD and other behavioural disorders in young people aged 3-17 years (Conners, 1997). The three versions of the scale (parent, teacher, and self-report) have been developed to address the need for multi-modal assessment and can be combined with other sources of information to assist in the diagnosis and treatment of youths with behavioural problems. There are long (L) and short versions (S) of each scale and both yield comparable results. The long forms are reliable and valid, collect more information, are the most comprehensive for clinical purposes, contain DSM IV symptom sub scales and offer greater power (i.e., sensitivity and specificity) in assessment and diagnosis (Conners, 1997). The parent and teacher long forms were used in this study and have 80 and 59 items respectively. Each item is rated on a 4 point scale according to frequency over the past month. Both forms contain the same 14 subscales with the addition of a psychosomatic subscale in the parent form. Four subscales were selected to identify changes across treatment: cognitive problems/inattention, social problems, ADHD index and global index (CGB). These indices were chosen to identify changes in cognitive, social and behavioural skills.

Conners' Rating Scale Revised (L) effectively discriminates between children with ADHD and normal controls and is the preferred ADHD screening test for children in New Zealand (Ministry of Health, 2001). Conners (1997) recommends that the long form be used when making diagnostic decisions. Total  $T$  scores of  $T \geq 67$  are in the clinical range and scores on the inattentive and hyperactive-impulsive symptoms of 6 and above are said to be clinically significant.

### The Strengths and Difficulties Questionnaire (SDQ)

This is a brief behavioural screening questionnaire that covers child behaviours, emotions and relationships. The SDQ evaluates 25 attributes, some positive and others negative and is applicable for children 4-16 years. Parent and teacher versions are the same. It has equal emphasis on strengths as well as difficulties, with five items in each

of the five relevant dimensions (conduct problems, emotional symptoms, hyperactivity, peer relationships, and pro-social behaviour). The optional 'Impact Supplement' was used in this research to assess chronicity and impact of the symptoms.

The SDQ is designed to meet the needs of researchers, clinicians and education personnel. It has adequate reliability and a high correlation with Rutter's Parent and Teacher Questionnaires (Goodman, 1997). There is also evidence that the SDQ has a strong correlation with the CBCL (Goodman 1997). Guidelines set out by Goodman (1997) for interpreting Total Difficulty Scores and Impact Scores on the SDQ were followed. Total Difficulty Score between 17-40 was rated as abnormal, 14-16 borderline and 0-13 normal. The Impact Score has a range from 0-10 and a score of 2 or more is considered abnormal.

#### Daily Behaviour Record

A checklist of 10 child behaviours was established for this research based on symptoms listed in the DSM IV diagnostic criteria for ADHD. The particular items were chosen to include both positive and negative behaviours and reflect aspects of hyperactivity, impulsivity, and attention deficit. The checklist was used to record frequency of behaviours daily using a likert scale of 1 (not at all) to 7 (a lot) (see Appendix D: Daily Child Behaviour Record). Participants began recordings from the beginning of their baseline measures and continued through the 20 week training programme and again for 2 weeks at 4 month follow up.

#### **Parental Functioning Measures**

Parent functioning was assessed using the Beck Depression Inventory Second Edition (BDI-II) (Beck 1972) and the Parental Stress Index (PSI/SF) (Abidin, 1983) at baseline, post-treatment and follow up. Parents also completed weekly ratings for specific areas of family functioning from the time of interview until the completion of the training programme and again at 4 month follow up.

#### Beck Depression Inventory: - Second Edition (BDI -II)

The BDI-II is a revision of the original developed by Beck, Ward, Mendelson, Mock and Erbaugh (1961). The BDI -II has become one of the most widely accepted instruments in clinical psychology and psychiatry for assessing the severity of

depression in adolescents and adults (Beck & Steer, 1987). It is also used widely in research and has been shown to correlate significantly with clinician ratings of depression and with objective behavioural measures of depression (Taylor, Schmidt, Pepler, & Hodgins, 1998).

The BDI -II is a 21 item self-report instrument where respondents are asked to indicate on a 4 point scale ranging from 0 to 3, which statement in each group best describes the way they have been feeling in the past two weeks, including today. The total score is calculated by summing the 21 ratings. Scores between 10-18 indicate mild to moderate depression, 19-29 moderate to severe and 30-63 severe depression.

The Parental Stress Index: Short Form (PSI/SF)

The Parental Stress Index Short Form (PSI/SF; Abidin, 1983) is a direct derivative of the Parenting Stress Index (1978), a tool designed for use by clinicians and researchers to identify parent-child systems that are under stress. The PSI/SF was developed in response to clinicians' requests to have a brief measure of stress that can be carried out in less than 10 minutes to help identify families that were in need of follow up (Abidin, 1983). The questionnaire includes 36 attributes covering child adaptability, acceptability of child to parent, child demands, child mood, distractibility, reinforcement of parent, parent depression, attachment, restriction imposed by parent role, feelings of competence, social isolation, relationships with spouse, health of parent, and life stress. Parents circle their response to each item on a 1–5 rating scale (strongly agree, agree, not sure, disagree, strongly disagree). Weighted item ratings are summed to generate three subscale scores: Parental Distress (PD), Difficult Child (DC) and Parent-Child Dysfunctional Interaction (P-CDI). The sum of these three gives the Total Stress Score. Scores within the 15<sup>th</sup> – 80<sup>th</sup> percentile are within the normal range and those at or above the 90<sup>th</sup> percentile are experiencing clinically significant levels of stress (Abidin, 1983). The profile also contains a Defensive Responding scale.

While the PSI/SF does not have independent research that supports its validity, it does have a significant correlation with the full version (PSI) ( $r = .94$ ) (Abidin, 1983).

Additionally, Anastopoulos, Guevremont, Shelton, & DuPaul (1992) report that the PSI has excellent reliability and validity and has been used extensively in child and

paediatric research. Validity data for the PSI has also been reported in New Zealand research (Treacy, 2002).

#### Weekly Family Functioning Measures

During the structured interview, parents identified three target complaints they wished to address and rated each complaint on a quality scale of 1 (least quality) to 7 (most quality). These ratings were assessed weekly from the time that their baseline measures commenced until the training programme was complete (see Appendix E: Participants' Weekly Measures of Family Functioning).

#### Group Goals

During the initial session of treatment participants identified a set of goals related to family functioning (17 in total) that they all agreed they wished to achieve during the training programme (see Appendix F: Group Goals). Each participant scored the items on a 1-7 likert scale at mid-treatment (week 10) post treatment (week 20) and at 4 month follow up.

#### Parent Satisfaction Questionnaire

At post treatment, all participants completed the satisfaction questionnaire (Webster-Stratton, 1999; see Appendix G: Parent Satisfaction Questionnaire). This evaluated satisfaction for the overall programme, teaching format, usefulness of skills, facilitator input, group interaction and personal satisfaction. Participants rated their responses on a 1-7 likert scale value.

#### Programme Evaluation

At post treatment, all participants completed a programme evaluation measure (Webster-Stratton, 1999). This evaluated aspects of the programme content, delivery and personal skills learnt. Participants rated their responses on a 1-4 likert scale.

All measures were gathered at pre-treatment, post-treatment, and at 4 month follow up with the exception of Parent Satisfaction and Programme Evaluation measures (post-treatment only) and the Group Goals measures (mid-treatment, post-treatment, follow up).

## **Procedure**

Participating families were referred to CAMHSS at Tauranga Hospital from practitioners in the community. The child was assessed by the Child Psychiatrist and the parents were invited to participate in the Training Programme if: (a) the child met the DSM IV criteria for Attention Deficit Hyperactivity Disorder, (b) the child was aged between 5-10 years, (c) there were significant total T scores on the CBCL, or Conners' rating scales, (d) the child had no core organic difficulty and no other major psychiatric illness, (e) and the parents agreed to be part of a group of 8-10 parents attending the Incredible Years Parent Training Programme.

Those who chose not to participate in the research group had the option of attending the training programme as non-research participants, or to remain as part of the standard treatment protocol delivered by CAMHSS. Participants were subsequently seen by the researcher, given information on the research project and asked to sign the consent form (see Appendix H: Information Sheet and Appendix I: Consent Form). A semi-structured interview was carried out and three Family Functioning areas (targeted complaints) were identified and rated. These family functioning ratings were repeated weekly during the treatment programme. Other baseline measures of family functioning were assessed using the Parental Stress Index (PSI/SF), the Strengths and Difficulties Questionnaire (SDQ) and Beck Depression Inventory (BDI-II). These measures were repeated at post-treatment and at 4 months follow up. The daily child behaviour schedule was used to rate the 10 child behaviours as described. Participants were asked to rate how confident they were that they were going to be able to complete the daily and weekly measures. Based on these ratings, any areas of difficulty were identified and addressed to better ensure completion.

This assessment procedure was administered by the researcher and took place for each participant separately in an interview room at CAMHSS. Treatment involved parents attending a 20 week Parent Management Training Programme (The Incredible Years Parent Child Series) that was carried out in a local community centre central to the city. The sessions were 2 hours in duration and were held weekly except for a 2 week break

during school holidays after session 10. Booster sessions were carried out at 2 months post-treatment and at 4 month follow up. Assessments were carried out at post-training and 4 month follow up with each participant individually at CAMHSS.

### The Training Programme

The training protocol used in this research was an integrated combination of the Basic Parent Training, Advanced Parent Training and Supporting Your Child’s Education Programme (See Table 1: Programme Content). This combination was in accordance with an already established protocol developed by Webster-Stratton, combined in a sequence after training and consultation with Webster-Stratton (2001, personal communication).

Table 1: Programme Content

Weeks	Topic
1-2	Play
3-4	Praise & Incentives
5-10	Reducing Inappropriate Behaviour
11	Problem solving with Children
12-14	Effective Communication with Adults & Children
15	Problem Solving for Parents
16-18	How to Support your Child’s Education
19	Special problems
20	Review, Evaluation & Graduation Celebration

The researcher travelled to Seattle (USA) to attend a Parent Group Facilitator training programme led by Webster-Stratton. The training covered a review of the history, development and research of the programme, the philosophical and theoretical foundations of the programme, along with a thorough overview of the content and requirements to facilitate a group successfully. Facilitator trainees were involved in role

plays, practice facilitation, giving and receiving feedback, and discussion on aspects of the programme content and delivery. These workshops are conducted to ensure that facilitators maintain the fidelity and efficacy of the programme through their implementation and delivery.

The current research programme was co-facilitated by the researcher and a clinical psychologist from CAMHSS. The course programme is set out as in Table 1. It began with the philosophy of the programme, an overview of the content, goal setting, (see Appendix F: Group Goals) and an explanation of the parenting pyramid (see Appendix B: Parenting Pyramid). It then covered the value of play, what children learn through play and how to play with your children. Weeks 3-4 covered praise and incentives, emphasising the “attention rule” and the importance of praise and incentives to motivate behaviour change. The next five sessions covered strategies for handling misbehaviour and reducing inappropriate behaviour including limit setting, active ignoring, time-out, and natural and logical consequences. Sessions 11-15 addressed problem solving strategies for adults and children and communication techniques followed by 3 weeks (session 16-18) on ways to support their child’s education including fostering good learning habits, dealing with discouragement, and parent- teacher conferences. The penultimate session looked at applying these techniques and principles to special problems such as lying, stealing, and cheating. The final session reviewed the main strategies, carried out participant evaluation and finished with a graduation celebration (see Table 1).

#### Treatment Materials

Equipment required to deliver the training programme included a complete set of videotapes for the Incredible Years Basic Parenting Training, Advanced Parent Training and Supporting Your Child’s Education. The facilitator manuals and weekly handout sheets, a video recorder and television screen, white board and markers, a ring binder folder and manila folder for each participant, toys for role plays, food for morning tea and incentive treats for participants (chocolates, sweets and stickers were used). A suitable room for 10 –15 people with comfortable chairs was used. Supervised crèche arrangements were made for any accompanying children.

### Intervention

Participants were part of a group of nine parents who participated in a weekly 2-hour training programme of 20 weeks. Each session included a review of the previous session, teaching on the new topic, video-vignettes showing examples of parents and children interacting, group discussion, and opportunities to role play and practice new strategies. A homework activity to reinforce new techniques was provided, along with a fridge magnet summary of the main points to help remind parents of the new learning. Participants were also encouraged to read the relevant chapter from the accompanying parent book (Webster-Stratton, 1992). Each participant recorded daily measures of child behaviour and weekly measures of family functioning. Mid-week phone calls from the researcher served to encourage parents, assess any difficulty they might have been experiencing and to ensure the daily measures were being recorded.

### Treatment Integrity

All sessions were recorded on audiotape and a senior clinical psychologist familiar with parent training programme randomly selected tapes for monitoring to check that the programme was delivered in accordance with the protocol outlined in the Incredible Years Manual. There were no protocol violations.

### **Ethical Considerations:**

The research was carried out in accordance with the ethical guidelines of the New Zealand Psychological Society. The Massey University Ethics Committee and the Bay of Plenty District Health Board Ethics Committee granted ethical approval. All participants received an Information Sheet (see Appendix H) and signed the consent form (see Appendix I).

## CHAPTER 4: RESULTS

It was proposed that parent management training would have a beneficial effect on the functioning of families of children diagnosed with ADHD. The effect was assessed by changes in child behaviour measures (CBCL, Conners, SDQ and Daily Behaviour Scores), changes in parent and family functioning measures (PSI, BDI, Weekly Family Functioning Scores) and group goals (Appendix F). Data from baseline measures were compared with post-treatment and 4 month follow up measures. The parent satisfaction survey and programme evaluation measures were also evaluated at post-treatment.

The Results section will cover general trends identified in the psychometrics and then consider changes for each child separately followed by parent functioning details for each participant.

### General Trends

#### Child Behaviour Psychometrics

Conners' Parent and Teacher Scores (Table 2).

Conners' Parent scores for two participants (B&D) showed an overall improvement in behaviour between pre-treatment and follow up. For the other two participants (A&C), the improvement was very slight. Most improvement in behaviour reported on parent scores occurred across treatment except for child B where most improvement occurred between post-treatment and follow up. Teacher *T* scores also indicated the greatest improvement was across treatment for each child except child A (no improvement). Parent scores overall tended to reflect more problems than teacher scores (except child B) and teachers reported more overall improvement than parents.

Table 2: *Conners' Parent and Teacher Rating Scale*

Measure	Participant	Pre- treatment		Post-treatment		Follow up	
		Parent	Teacher	Parent	Teacher	Parent	Teacher
<b>Conners</b>							
<b>Total T</b>	A	<b>87</b>	<b>61</b>	<b>83</b>	<b>61</b>	<b>81 (50)*</b>	<b>62</b>
Inatt.		4	0	4	0	3 (0)*	1
Hyp.		9	0	7	2	7 (2)*	5
<b>Total T</b>	B	<b>70</b>	<b>77</b>	<b>82</b>	<b>69</b>	<b>66</b>	<b>71</b>
Inatt.		1	8	7	0	1	4
Hyp.		3	7	5	1	2	1
<b>Total T</b>	C	<b>87</b>	<b>74</b>	<b>84</b>	<b>46</b>	<b>85</b>	<b>61</b>
Inatt.		5	4	5	0	8	0
Hyp.		3	3	7	0	6	0
<b>Total T</b>	D	<b>72</b>	<b>66</b>	<b>61</b>	<b>60</b>	<b>64</b>	<b>56</b>
Inatt.		6	0	0	0	4	2
Hyp.		2	0	1	0	0	0

Note. NO = not able to be obtained; *T* = Total *T* Score; CBCL = Child Behaviour Checklist; Inatt. = DSM IV Inattention Symptom Subscale; Hyp. = DSM IV Hyperactivity-impulsive Symptom Subscale;

( ) \* Father's scores for child D

Conners' Total T clinically significant at  $T \geq 67$ ; Inattentive and Hyperactive-impulsive symptoms subscale significant at 6 and above

CBCL Parent and Teacher Scores (Table 3).

Some CBCL data was unavailable, owing to missing data, and not included. All parent scores are from mothers who participated in the programme, except child A at follow up where scores from both the mother and father (a non participant who lived away from

the area) were collected. Unless otherwise stated, child A parent scores are mother scores.

Available CBCL parent scores (child A, B & C) showed no overall improvement in behaviour between pre-treatment and follow up, while teacher scores (child B & C) indicated an improvement across treatment that was generally maintained at follow up.

Table 3: *CBCL Parent and Teacher Rating Scale*

Measure	Participant	Pre- treatment		Post-treatment		Follow up	
		Parent	Teacher	Parent	Teacher	Parent	Teacher
<b>CBCL</b>							
<b>Total T</b>	A	<b>71</b>	<b>NO</b>	<b>76</b>	<b>68</b>	<b>71 (51)*</b>	<b>NO</b>
Int. T		59		73	66	64 (43)*	
Ext. T		76		73	66	72 (54)*	
<b>Total T</b>	B	<b>68</b>	<b>87</b>	<b>80</b>	<b>80</b>	<b>68</b>	<b>78</b>
Int. T		57	77	82	77	69	69
Ext. T		71	87	78	73	63	75
<b>Total T</b>	C	<b>85</b>	<b>65</b>	<b>80</b>	<b>46</b>	<b>87</b>	<b>55</b>
Int. T		79	53	73	36	82	36
Ext. T		89	69	82	46	88	60
<b>Total T</b>	D	NO	NO	<b>65</b>	<b>52</b>	<b>65</b>	<b>60</b>
Int. T				49	36	57	64
Ext. T				60	53	58	48

Note. NO = not able to be obtained; T = Total T Score; CBCL = Child Behaviour Checklist; Int T = Internalising T score; Ext. T = Externalising T score;

( ) \* Father's scores for child D

CBCL Total T clinically significant at  $T \geq 67$ ; Internalising and Externalising T clinical score  $T \geq 65$

## Strengths and Difficulties Questionnaire

Parent scores on the Strengths and Difficulties Questionnaire did not reflect any major trends across participants other than all impact scores were seen to be reduced by follow up (see Table 4).

Table 4: *Parent Scores on Strengths and Difficulties Questionnaire*

Scores	Participant	Pre- treatment	Post-treatment	Follow up
Difficulties	A	36	37	29
Strengths		7	7	7
Impact		7	10	5
Difficulties	B	19	27	15
Strengths		7	8	10
Impact		2	8	0
Difficulties	C	23	24	29
Strengths		4	5	6
Impact		6	5	5
Difficulties	D	16	13	16
Strengths		8	9	6
Impact		2	2	0

SDQ = Strengths and Difficulties Questionnaire; Total Strengths = Pro-social Behaviour Score; Total Difficulties = Hyperactivity Score+ Emotional Symptom Scale + Conduct Problem Scale + Peer Problem Score. Total Difficulties Score: 17-40 abnormal; 14-16 borderline; 0-13 normal; Pro-social Score 0-10; Impact score 0-10:  $\geq 2$  is abnormal, 1=borderline, 0=normal.

At pre- treatment, three children (child A, B, & C) had total difficulty scores in the abnormal range and all four children had impact scores in the borderline range ( $\geq 2$ ). At follow up, two participants (A & B) reported a small improvement in total difficulties while child A made no change and child B reported a small increase in total difficulties.

At follow up, there was an overall improvement in impact scores for all children and two of these (B & D) had scores in the normal range. Scores on pro-social strengths also varied with each child. Child A made no change, child B and C both showed a small improvement in Strengths score and child D showed a slight reduction in Strengths score.

#### Daily Behaviour Measures

Daily positive and negative child behaviours were monitored by parents for varied baseline periods, throughout the treatment period and again at follow up for a period of 14 days. Follow up scores of daily child behaviour were unable to be collected for child A. Gaps in graph lines meant no data was able to be collected.<sup>1</sup> The daily measures collected during treatment were subject to a Trewess (Trimmed Resistant Weighted Scatterplot Smooth) formula to average responses and eliminate excessive fluctuations in daily scores. Trewess is a smoother developed by Velleman (1997). It accommodates unequally spaced data and is designed to produce comparably useful smooth traces. It is thus suitable for smoothing scatter plots. Trewess offers two parameters; the span of the smoother and the trimming percentage. For this research, a span value of 25% of the data and trimming percentage of 10% trimmed mean was used as the default. Setting the span larger makes the trewess smooth smoother and less willing to follow local fluctuations. Setting the trimming percentage larger makes trewess resistant to longer excursions in the data but can also affect sensitivity and smoothness. The trewess scores for positive child behaviours and negative child behaviours are graphed separately for child A, B, C and D and presented in Figures 2-3, 5-6, 10-11, 15-16, respectively.

Follow up daily behaviour measures were collected for child B, C and D over a 2 week period (see figures 17-22). This data was not subject to trewess smoothing as it was more discrete and for a shorter period.

There was no fully consistent trend across baseline for all children. There was no overall change in positive behaviours during baseline for child A, B or D while child C had a small overall improvement. Negative behaviours showed a small overall decrease in frequency during baseline for three children (B, C, & D) with no change detected for

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<sup>1</sup> Parents did not fill out these measures

child A. All children showed some fluctuations in positive behaviours during treatment and there was a general trend towards increased frequency of positive behaviours by post-treatment. Negative behaviours showed mixed results with improvements for child D and C but little change for child A and B across treatment. Generally, positive behaviours tended to improve early in the treatment period while negative behaviours seemed more resistant to initial treatment effects. This may reflect the sequence of treatment (see Discussion).

During the 14 day follow up period, both child B and D positive behaviour scores were higher than post-treatment scores and negative behaviour scores were lower than post-treatment scores. Child C behaviour scores continued to fluctuate at follow up and overall scores were similar to post-treatment. Follow up data for child A was unavailable.

### **Individual Child Measures**

#### Child A

Conners' and CBCL Total *T* scores (Tables 2&3)

Parent scores for child A were higher than teacher scores on the Conners' rating scale. Available CBCL parent scores and Conners' parent scores were all in the critically significant range at each point. While there was a slight improvement in the Conners' parent score across treatment ( $T=87$ ,  $T=83$ ) that continued at follow up ( $T=81$ ), there was a slight deterioration across treatment on the CBCL parent scores ( $T=71$ ,  $T=76$ ) followed by a small improvement at follow up ( $T=71$ ) and no overall change. In contrast, Conners' teacher scores were below the clinical level at each point and showed little change over treatment. The father's scores at follow up were noticeably lower than the mother's and teacher's scores.

CBCL Internalising and Externalising subscales (Table 3)

Parent scores on CBCL subscales (Table 3) also showed an increase across treatment for internalising behaviours ( $T=59$ ,  $T=73$ ) followed by an improvement at follow up ( $T=64$ ). Externalising behaviours showed a small overall improvement ( $T=76$ ,  $T=72$ ) but remained above the clinically significant range. The father's scores were all below the clinical range and noticeably lower than the mother's score.

#### Conners' Subscales (Table 2&5)

Conners' DSM IV symptom subscale parent scores (Table 2) showed no overall change, with inattention scores all below the clinical level and hyperactivity scores all above the level. Teachers' scores showed a small increase across treatment on the hyperactivity scale ( $T=0$ ,  $T=2$ ) and this continued to increase at follow up ( $T=5$ ).

Parent scores on Conners' subscales (Table 5) were consistently higher than teacher scores and indicated significant problems on all four subscales at each time interval except ADHD post-treatment score ( $T=63$ ). Teacher scores showed an improvement across treatment on two subscales (cognitive/inattention and social) and this was maintained at follow up. Both parent and teacher scores indicated the greatest area of concern across treatment was in social skills and while this subscale showed an improvement at follow up, both scores remained in the moderately atypical range.

#### Child A Strengths and Difficulties Questionnaire (Table 4)

Child A had more total difficulties and a higher total impact score after treatment. However, these scores both decreased at follow up representing an overall improvement. There was no change in total strengths across treatment or at follow up.

#### Child A Daily Behaviour Measures (See Figures 2&3)

There was no identifiable change in behaviour during the baseline period. During treatment positive behaviours responded initially with an increase in frequency in the first half of the training programme (except behaviour 5, waits his turn to speak). There was a noticeable decline in positive behaviours and corresponding increase in negative behaviours between days 29-36 (session 5). This covered the period of moving house and changing schools. Positive behaviours declined in the final week of treatment (day 134–141; session 19) when custody issues were being negotiated and child A went to live with his father. The initial improvement in positive behaviours was not maintained during the second half of treatment and negative behaviours showed no improvement across treatment. Generally, daily behaviours showed no improvement in child A behaviour over the treatment period and follow up data was not able to be collected.

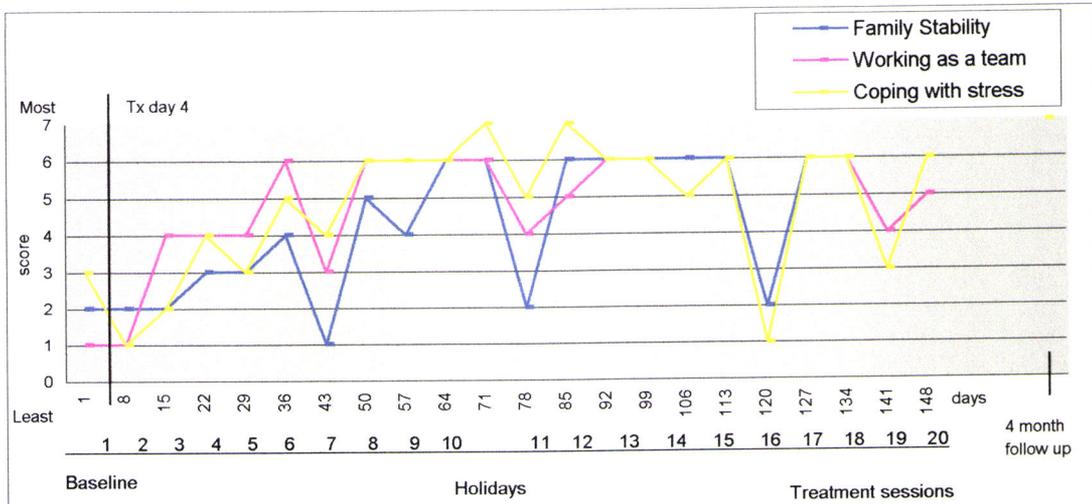
Table 5: *Conners' Subscale T Scores*

Subscale	Child	Pre-Treatment		Post-treatment		Follow up	
		Parent	Teacher	Parent	Teacher	Parent	Teacher
Cognitive/Inattention	Child A	90	76	80	67	69 (55)*	62
Social		90	86	90	82	83 (55)*	67
ADHD index		84	57	63	62	77 (47)*	62
CGI		87	65	90	66	87 (47)*	67
Cognitive/Inattention	Child B	65	78	73	74	65	74
Social		45	86	53	81	57	71
ADHD index		69	76	80	72	67	71
CGI		75	81	86	81	67	78
Cognitive/Inattention	Child C	81	73	72	51	73	62
Social		87	48	73	47	77	45
ADHD index		80	70	73	49	76	58
CGI		90	76	84	53	84	62
Cognitive/Inattention	Child D	73	62	57	63	71	62
Social		64	82	57	51	45	71
ADHD index		75	54	57	57	65	56
CGI		72	53	62	55	57	50

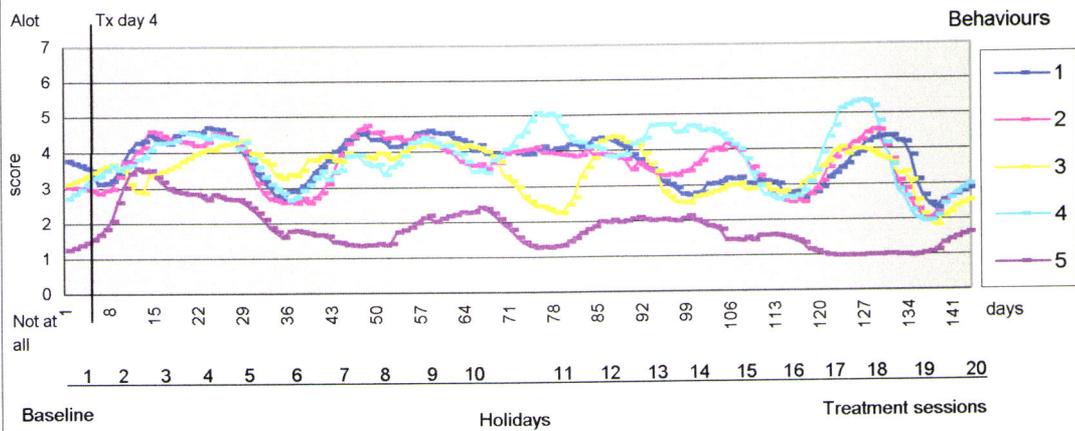
CGI = Conners' Global Index. It reflects general problematic behaviour; \* Father's scores for child D  
 Conners' subscale clinically significant  $T \geq 67$ .

T score guidelines: (Conners, 1997)

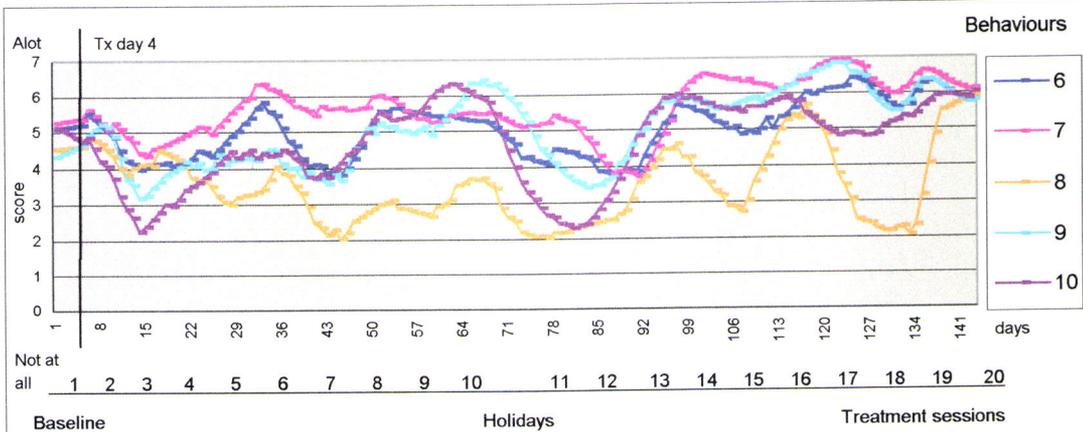
- 70+ Markedly Atypical – Indicates Significant Problem;
- 66-70 Moderately Atypical –Indicates Significant Problems;
- 61-65 Mildly Atypical –Possible Significant Problems;
- 56-60 Slightly Atypical –Borderline, Should raise concern;
- 45-55 Average- Typical score, Should not raise concern



**Figure 1. Child A Family Functioning**



**Figure 2. Child A Positive Behaviours**



**Figure 3. Child A Negative Behaviours**

**Positive Behaviours:**  
 1=Completes tasks on time  
 2=Complies with requests  
 3=Plays nicely with siblings  
 4=Respects feelings for others  
 5=Waits his turn to speak

**Negative Behaviours:**  
 6=Interrupting demanding attention  
 7=Argues; Talks back to adults  
 8=Hitting kicking biting  
 9=Being hyperactive, running around  
 10=Yelling & temper tantrums

## Child B

### Conners' and CBCL Total *T* Scores (Tables 2&3)

Parent scores indicated deterioration in behaviour between pre-treatment and post-treatment on both Conners' ( $T=70$ ,  $T=82$  respectively) and CBCL ( $T=68$ ,  $T=80$ , respectively). This was followed by a marked improvement at follow up on both scores (Conners'  $T=66$ ; CBCL  $T=68$ ). In contrast, teacher scores indicated an improvement across treatment that was generally maintained at follow up.

### CBCL Internalising and Externalising subscales (Table 3)

Parent scores on CBCL internalising and externalising subscales increased over treatment followed by a decrease at follow up. This was the same trend seen in parent total *T* scores. Teacher externalising subscale scores also reflected the teacher total *T* score with a relatively large improvement across treatment ( $T=87$ ,  $T=73$ ) followed by a small increase at follow up ( $T=75$ ) (Table3). Teacher internalising scores showed a small overall improvement.

### Conners' subscales (Tables 2&5)

Parent scores on Conners' DSM IV symptom subscales (Table 2) indicated deterioration across treatment followed by an improvement at follow up. Teacher scores showed an overall improvement across treatment on both subscales. At follow up, both teacher and parent scores were below the clinically significant level.

Parent scores on Conners' subscales (Table 5) were generally lower than teacher scores and indicated little or no improvement across treatment followed by improvement at follow up. The only scale that was contrary to this trend was the social index that showed no improvement across follow up but was already below the clinical level ( $T=57$ ). In contrast, teacher scores did indicate improvement across treatment on most indices and this improvement was maintained at follow up. However, all indices remained above the clinical level at follow up indicating significant problems remained in these areas. Additionally, teacher scores identified social problems as significant for Child B across treatment ( $T=86$ ,  $T=81$  respectively) and at follow up ( $T=71$ ) but parent scores did not indicate any concern with social problems across treatment ( $T=45$ ,  $T=53$

respectively) or at follow up ( $T=57$ ) (see Table 5). Both parent and teacher scores continued to rate CGI in the markedly atypical range across treatment and at follow up.

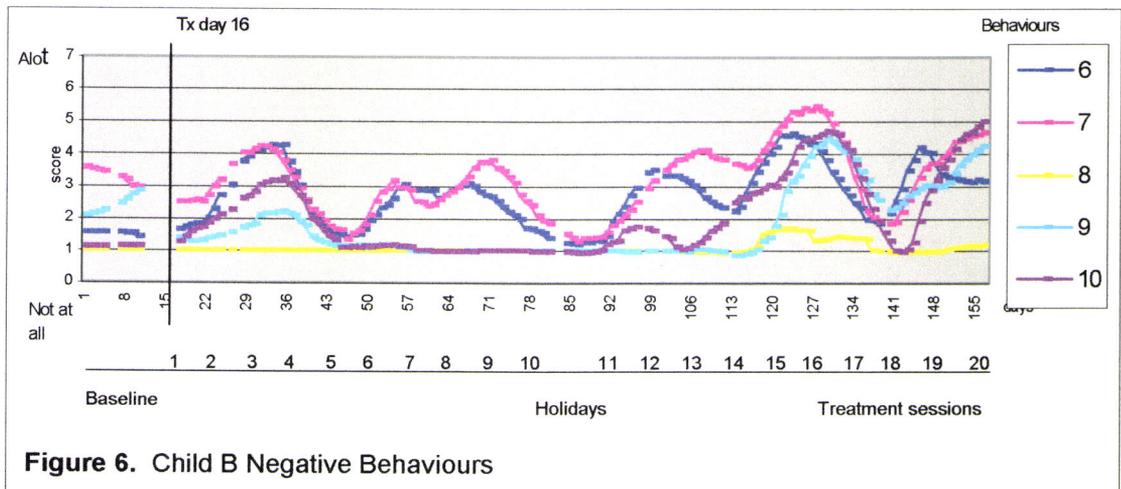
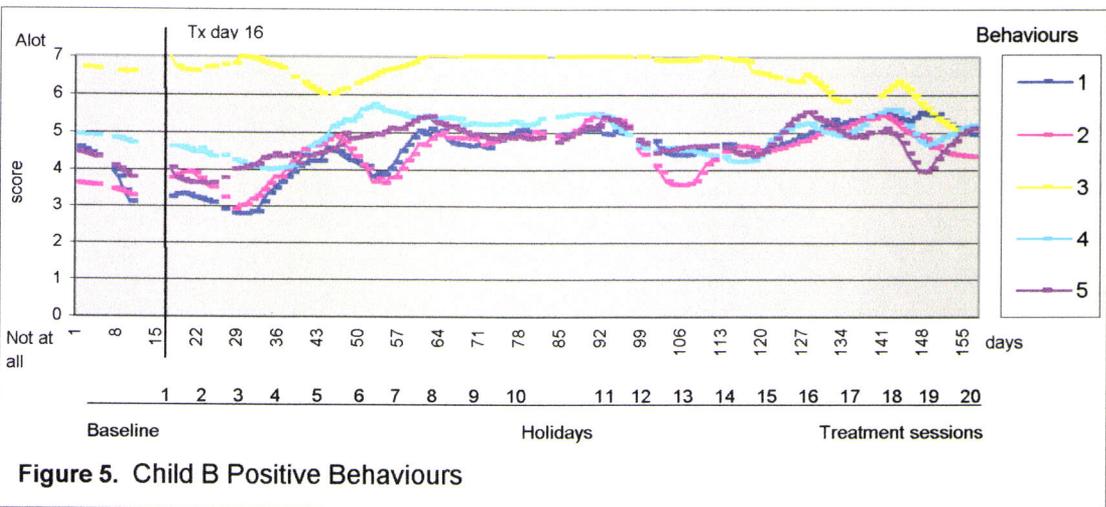
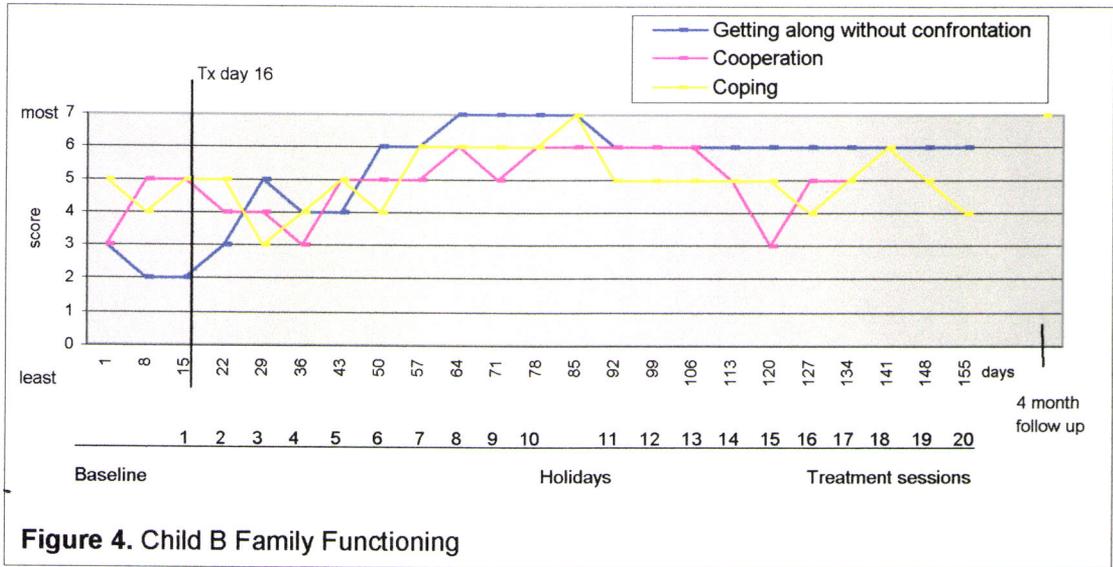
Child B's results were mixed with parent reports indicating little improvement across treatment and a greater improvement across follow up, while teacher reports indicated slight improvement across treatment that was generally maintained at follow up.

#### Child B Strengths and Difficulties Questionnaire (Table 4)

Child B had a notable increase in both difficulties (pre-treatment=19, post-treatment=27) and impact scores across treatment (pre-treatment = 2, post-treatment=8). Both subscales improved at follow up with difficulties score (15) in the borderline range and impact (0) in the normal range. Strengths improved across treatment and continued to improve across follow up.

#### Child B Daily Behaviour Measures (See Figures 5, 6, 7, & 8)

Positive behaviours were generally reported above a score of 4 (out of 7) at baseline and showed little change during pre-treatment. There was a steady improvement across treatment that was maintained at follow up. Most negative behaviours, on the other hand, were reported to be below a score of 3 at baseline and only two behaviours (7 & 9) decreased across baseline. During treatment, negative behaviours generally fluctuated throughout the treatment period with the exception of behaviour 8 (hitting, kicking, and biting), which was low and stable for most of the treatment period. Negative behaviours fluctuated with peaks at days 29-36 (session 3) when child C was assaulted by a neighbour and at days 115 –127 (session 14-15) when he was subject to bullying at school and again at days 141- 155 (session 19 & 20) when the family was preparing to move house. Post-treatment negative behaviour scores were generally higher than during baseline. During follow up, all negative behaviours were less frequent than at post-treatment and similar to baseline levels.

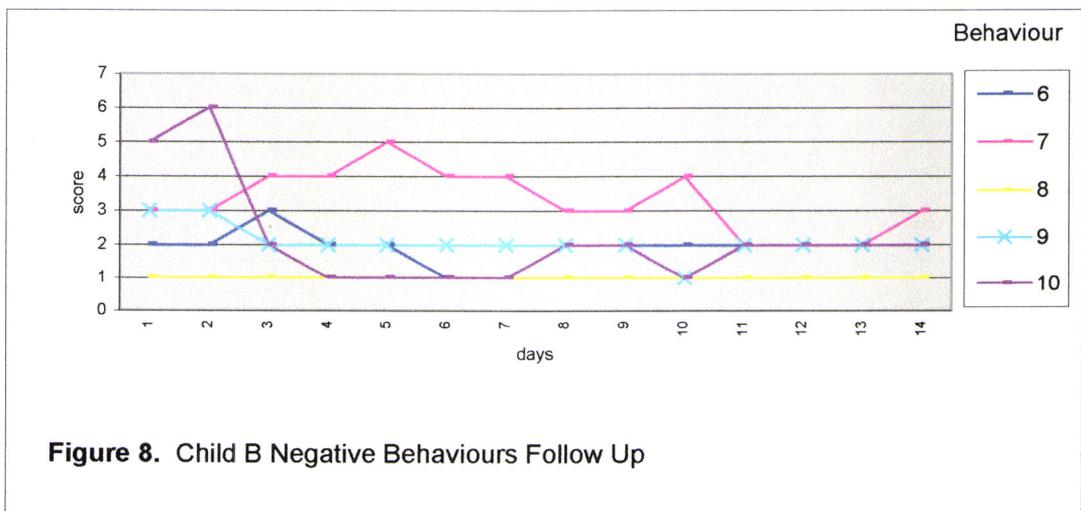
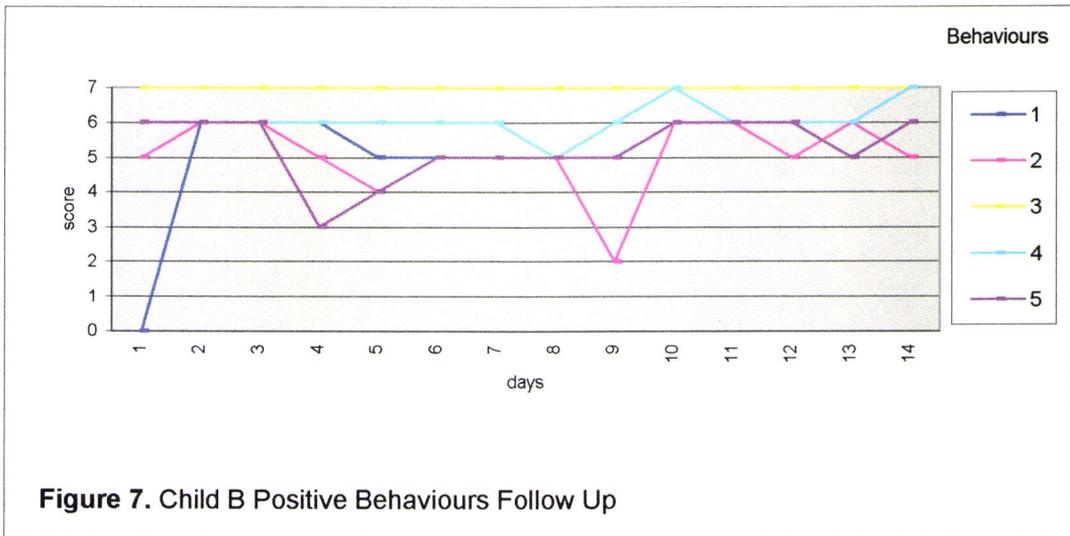


**Positive Behaviours:**

- 1=Completes tasks on time
- 2=Complies with requests
- 3=Plays nicely with siblings
- 4=Respects feelings for others
- 5=Waits his turn to speak

**Negative Behaviours:**

- 6=Interrupting, demanding attention
- 7=Argues; Talks back to adults
- 8=Hitting kicking biting
- 9=Being hyperactive, running around
- 10=Yelling & temper tantrums



**Positive Behaviours:**  
 1=Completes tasks on time  
 2=Complies with requests  
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 5=Waits his turn to speak

**Negative Behaviours:**  
 6=Interrupting, demanding attention  
 7=Argues; Talks back to adults  
 8=Hitting kicking biting  
 9=Being hyperactive, running around  
 10=Yelling & temper tantrums

## Child C

### Conners' and CBCL Total *T* scores (Table 2 & 3)

Teacher scores for child C showed greater improvement and more stability than parent scores. CBCL and Conners' teacher scores indicated a noticeable improvement in behaviour across the treatment period with all scores below the clinical level at post-treatment and at follow up. Parent reports showed a slight decrease in scores across the treatment period but this improvement was not maintained at follow up. Both Conners' and CBCL parent scores were in the clinical range at follow up.

### CBCL Internalising and Externalising Subscales (Table 3)

Both parent and teacher scores on the CBCL internalising and externalising subscales identified an improvement across treatment but improvement was maintained on only one index (teacher rated internalising) at follow up. Generally, teacher scores were lower than parent scores and indicated a greater level of improvement. At follow up, all teacher scores were below the clinical level while all parent scores were above the critical level. In general, teacher scores indicated a greater level of improvement across treatment than parent scores.

### Conners' Subscales (Table 2 & 5)

Teacher scores on Conners' DSM IV symptom subscales showed an improvement across treatment on both hyperactivity and inattention while parent scores indicated an overall deterioration on both subscales (Table 2).

Conners' subscale parent reports were consistently higher than teacher reports (Table 5). Both parent and teacher scores indicated an improvement across treatment but gains made during treatment were not all maintained at follow up. Parent scores indicated the area of greatest overall improvement was in social skills ( $T=87$ ,  $T=77$  respectively), while teacher reports indicated most improvement on the ADHD index ( $T=70$ ,  $T=58$  respectively). At follow up, all teacher scores were below the clinical range whereas all parent scores were in the clinical range.

#### Child C Strengths and Difficulties Questionnaire (Table 4)

There was an overall increase in total difficulties score (pre-treatment=23, follow up=29) and an increase in total strengths (pre-treatment=4, follow up=6). The total impact score decreased slightly but remained in the abnormal range.

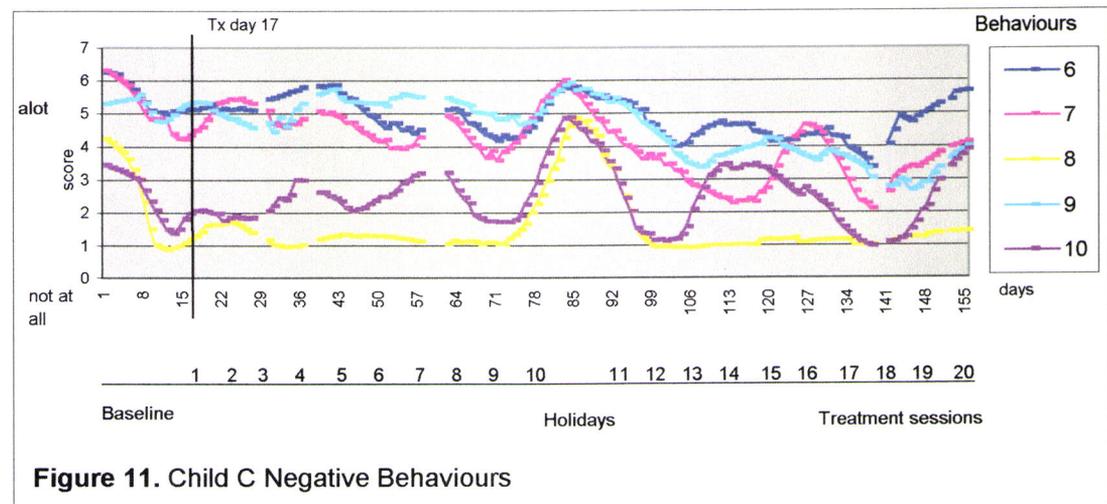
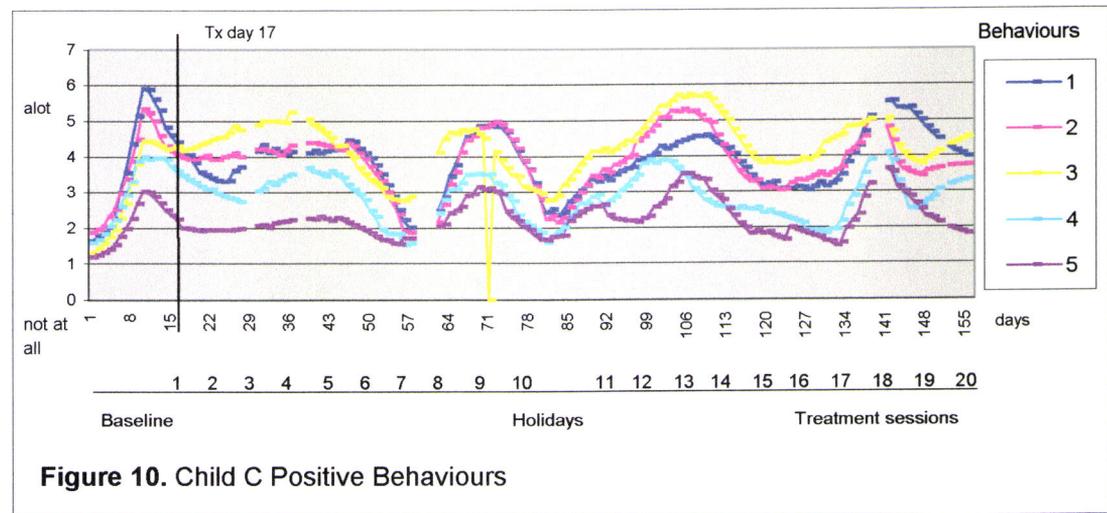
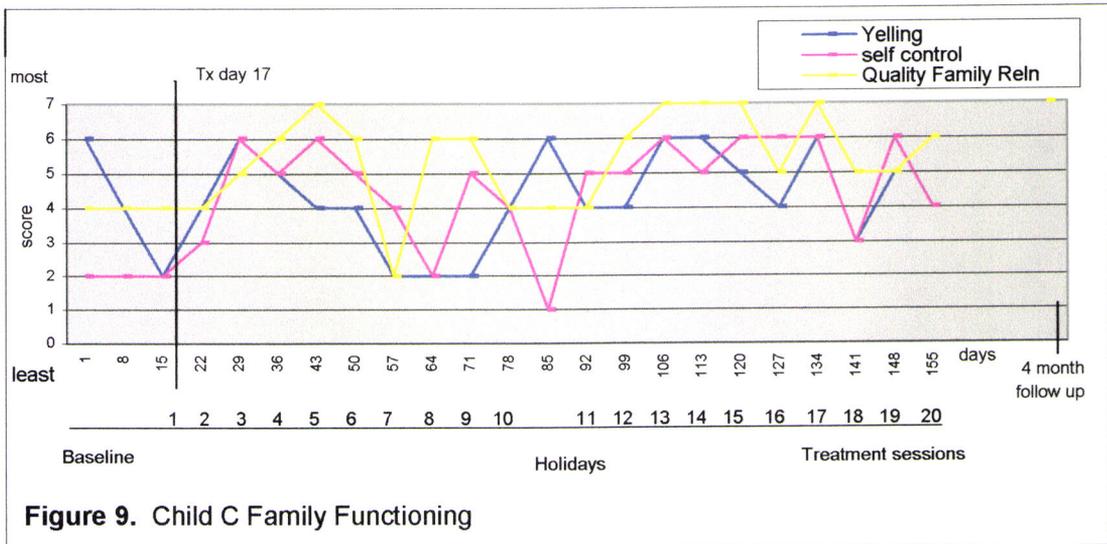
#### Child C Daily Behaviour Measures (Figures 10, 11, 12, &13)

Positive behaviour scores improved during baseline. There were some fluctuations over the treatment period with a small overall improvement compared with the beginning of baseline. Negative behaviours also improved during baseline and fluctuated across treatment with a general trend towards improvement. During treatment behaviour deteriorated at days 50-60 (sessions 6 & 7) and days 78-85 (after session10). These periods of time related to when child C's grandfather was very ill in hospital and to the holiday break between session 10 and session 11 respectively. During the second half of the treatment (weeks 11-23), negative behaviour generally declined and positive behaviour increased until the last 2 weeks of treatment (days 141-155; sessions 19 & 20) when behaviour deteriorated. This was the last 2 weeks at the current school as child C was being moved to a different school. Follow up results were mixed with some behaviours generally improved (behaviours 1, 2, 3, 8, &10) and other behaviours unstable (behaviours 4, 5, 6, 7, & 9).

#### Child D

##### Conners' and CBCL Total *T* scores (Table 2 & 3)

Both parent and teacher measures on the Conners' rating scale showed an overall improvement in child behaviour during the treatment period and this was maintained at follow up on the teacher but not parent ratings. Conners' teacher scores indicated steady overall improvement ( $T=66$ ,  $T=60$ ,  $T=56$ ), while parent scores showed improvement across treatment ( $T=72$ ,  $T=61$ ), followed by a small deterioration at follow up ( $T=64$ ) but nevertheless remained below the clinically significant level ( $T=67$ , Table 2). There were no CBCL pre-treatment scores available for child D. Parent and teacher *T* scores on the CBCL were both below the clinical level ( $T=67$ ) at post-treatment ( $T=65$ ,  $T=52$  respectively) and at follow up ( $T=65$ ,  $T=60$  respectively). While there was an increase in the teacher score at follow up, there was no change in parent score (Table 3).

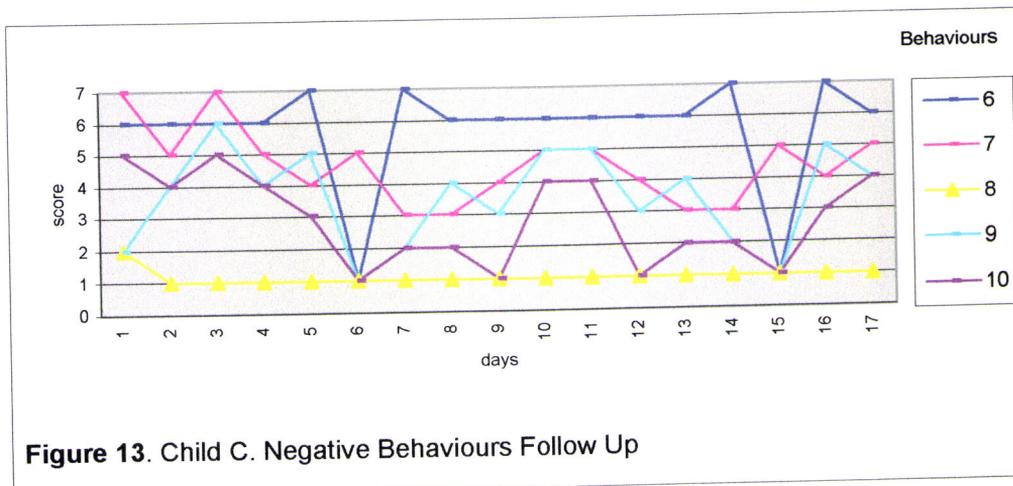
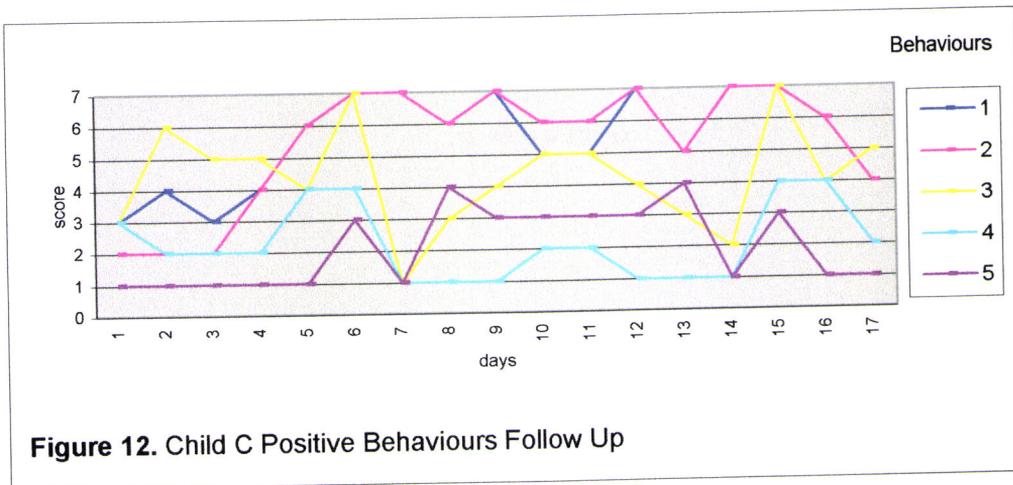


**Positive Behaviours:**

- 1=Completes tasks on time
- 2=Complies with requests
- 3=Plays nicely with siblings
- 4=Respects feelings for others
- 5=Waits his turn to speak

**Negative Behaviours:**

- 6=Interrupting, demanding attention
- 7=Argues; Talks back to adults
- 8=Hitting kicking biting
- 9=Being hyperactive, running around
- 10=Yelling & temper tantrums



**Positive Behaviours:**

- 1=Completes tasks on time
- 2=Complies with requests
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- 4=Respects feelings for others
- 5=Waits his turn to speak.

**Negative Behaviours:**

- 6=Interrupting, demanding attention;
- 7=Argues, Talks back to adults
- 8=Hitting kicking biting
- 9=Being hyperactive, running around
- 10=Yelling & temper tantrums

### CBCL Internalising and Externalising Subscale (Table 3)

Available post-treatment and follow up CBCL internalising and externalising subscales were all below the level of clinical significance (Table 2). During this period, internalising scores increased slightly and externalising scores decreased.

### Conners' subscales (Table 2 & 5)

Teacher scores on Conners' DSM IV symptom subscales indicated no clinical significance at any point (Table 2). Parent scores however, indicated a significant problem with inattention at pre-treatment but this had improved by follow up and was below the clinical level. Parent hyperactivity scores showed an overall improvement. At follow up, all subscale scores were lower than pre-treatment levels.

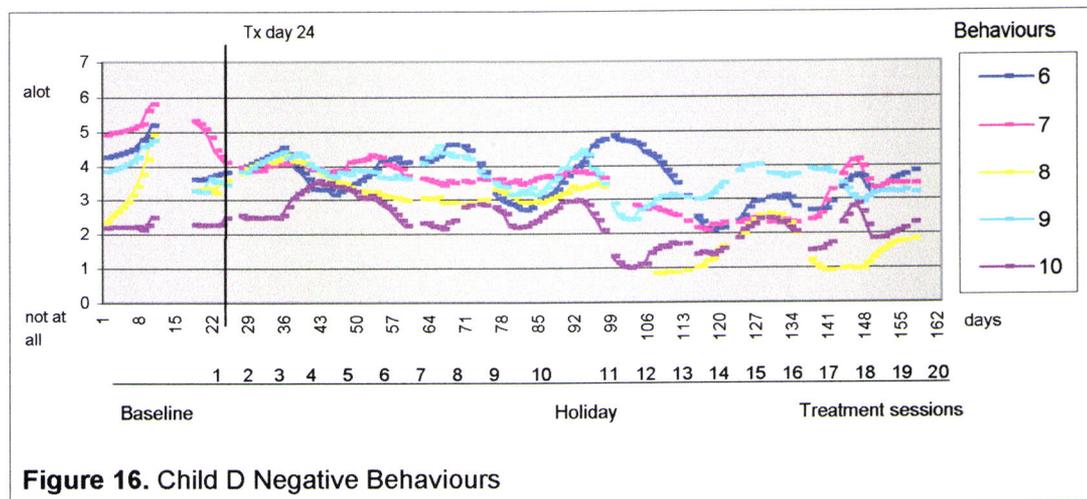
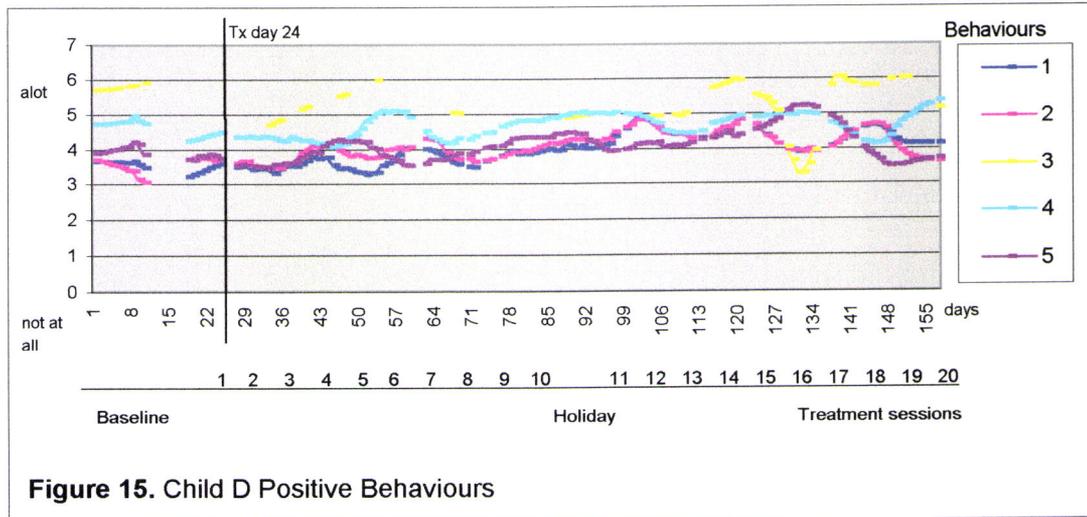
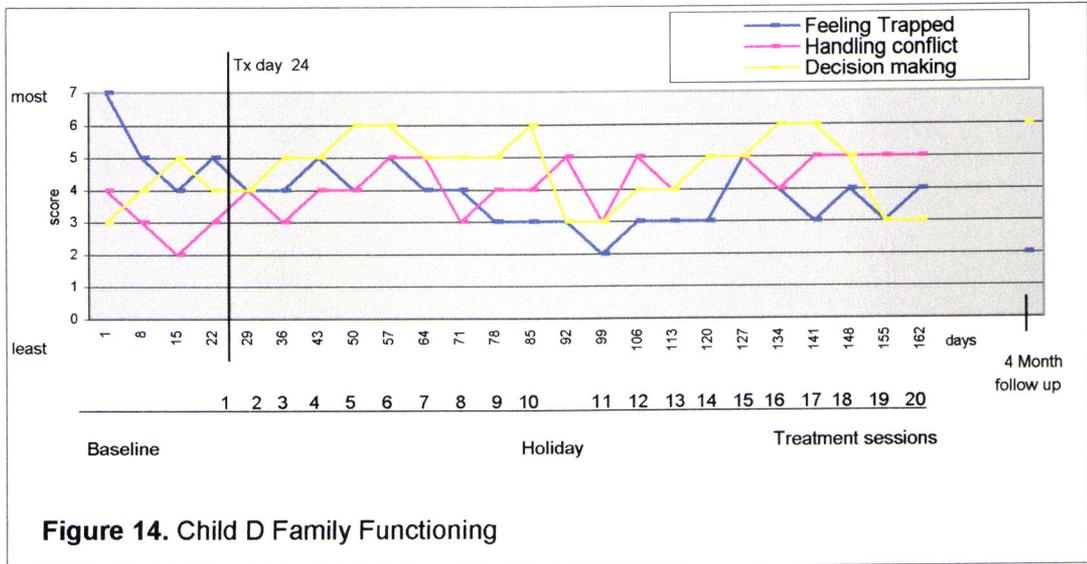
Conners' subscale scores showed some variation between parent and teacher scores for child D (Table 5). Parent scores indicated a significant problem in all four subscales at pre-treatment with an improvement in each area over treatment. At follow up, only cognitive/inattention was rated as markedly atypical. In contrast, teacher scores identified that social skills was the only area of concern at pre-treatment ( $T=82$ ). While there was an improvement across treatment on this subscale ( $T=51$ ), this improvement was not maintained at follow up ( $T=71$ ), though it was lower than at pre-treatment.

### Child D Strengths and Difficulties Questionnaire (Table 4)

Child D showed an improvement over treatment in total difficulties and total strengths but this improvement was not maintained at follow up. The total impact score was unchanged across treatment but improved across follow up (Table 4).

### Child D Daily Behaviour Measures (Figures 15, 16, 17, &18)

Positive behaviours showed an improvement during baseline and continued to improve during treatment with some fluctuation towards the end of the treatment period (days 141-148; session 17) when the family was packing up house to move to another city and begin a new school. Gains made across treatment were maintained at follow up for most behaviours. Negative behaviours fluctuated during baseline and tended to reduce in frequency during treatment and continued to be less frequent at follow up. Overall, behaviour improved across treatment and was maintained at follow up.

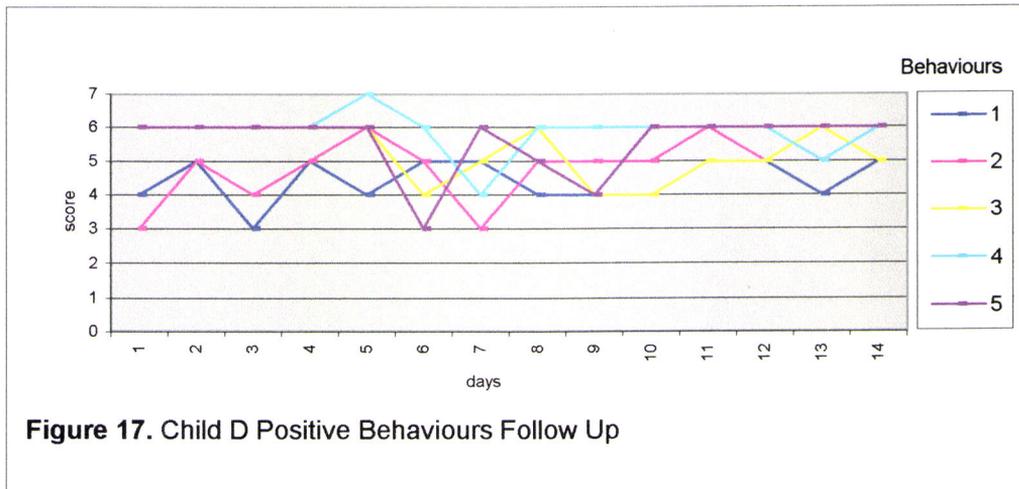


**Positive Behaviours:**

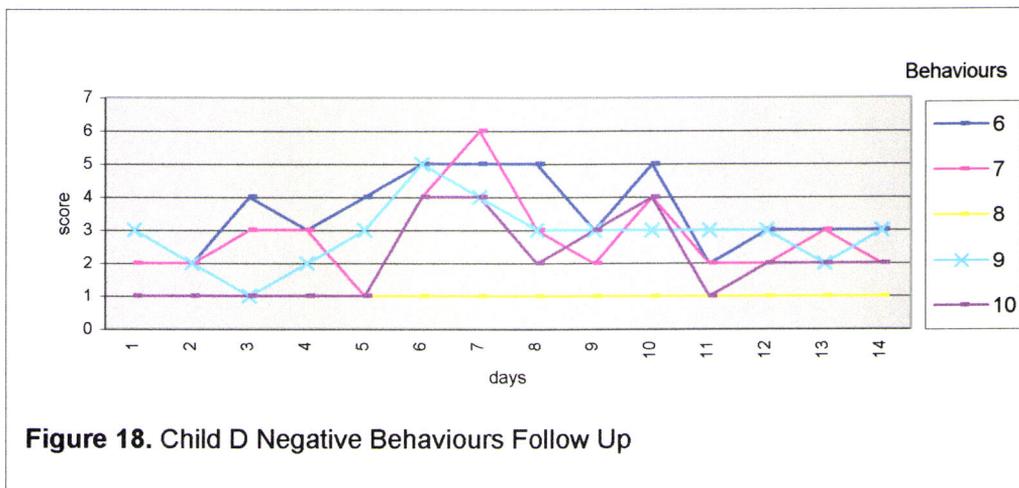
- 1=Completes tasks on time
- 2=Complies with requests
- 3=Plays nicely with siblings
- 4=Respects feelings for others
- 5=Waits his turn to speak

**Negative Behaviours:**

- 6=Interrupting, demanding attention
- 7=Argues; Talks back to adults;
- 8=Hitting kicking biting
- 9=Being hyperactive, running around
- 10=Yelling & temper tantrums



**Figure 17. Child D Positive Behaviours Follow Up**



**Figure 18. Child D Negative Behaviours Follow Up**

**Positive Behaviours:**  
 1=Completes tasks on time  
 2=Complies with requests  
 3=Plays nicely with siblings  
 4=Respects feelings for others  
 5=Waits his turn to speak.

**Negative Behaviours:**  
 6=Interrupting, demanding attention  
 7=Argues; Talks back to adults  
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## **Parent Functioning Measures**

### *Parenting Stress Index (PSI) (Table 6)*

Parent stress levels were expected to decline following treatment. While two participants (A & C) showed a decline in PSI score across treatment, their percentile rank did not improve (Table 6). There was an overall improvement in stress levels by follow up for three participants (A, B & D) who had reduced PSI scores and improved percentile rankings. Participant C continued to have high PSI scores throughout the treatment and remained in the clinically significant level (99<sup>th</sup> percentile) at follow up.

### *Beck Depression Inventory (BDI-II) (Table 6)*

It was expected that depression levels would improve with treatment. Participant A scores indicated no or minimal depression at each time interval. Participants B & D showed an overall improvement in depression with all scores in the minimal range (< 10) at follow up (Table 6). Participant C's level of depression increased across treatment and at follow up was in the severe depression range (30–63).

Table 6: Parent Functioning Scores on PSI/SF and BDI-II

Measure	Participant	Pre-treatment		Post-treatment		Follow up	
		Score	Percentile	Score	Percentile	Score	Percentile
PSI	A	166	99	139	99	92	90
	B	82	80	98	90	53	10
	C	95	90	94	90	147	99
	D	110	99	121	99	72	55
BDI	A	Score		Score		Score	
		2		7		0	
	B	11		14		7	
	C	14		20		36	
D	21		1		9		

PSI=Parental Stress Index; Total Stress 15<sup>th</sup> - 80<sup>th</sup> percentile =normal range; ≥ 90<sup>th</sup> percentile = clinically significant levels of stress.

BDI = Beck Depression Inventory; BDI < 10 =none or minimal depression; 11 – 18 mild to moderate depression; 19 - 29 moderate to severe; 30-63 severe depression.

### Weekly Family Functioning

Figures 1, 4, 9 & 14 show the changes in family functioning over the treatment period and at follow up for each family. Each participant identified three areas of family functioning to target for improvement during the training. Overall, treatment impact was seen across treatment and follow up intervals.

Participant A identified 'family stability', 'working as a team' and 'coping with stress' as target family functions. There was no identifiable change during baseline (Figure 1). During treatment, all three functions increased steadily and followed a similar pattern of fluctuation. At follow up, all items were at the maximum best score.

Participant B identified 'getting along without confrontation', 'coping' and 'cooperation' as target family functioning areas. During baseline, cooperation improved but participant B experienced less ability to get along without confrontation and less ability to cope (Figure 4). All three areas showed an improvement over the treatment time and each item reached maximum best score during follow up. 'Getting along without confrontation' took the longest to respond (4 weeks) and then improved steadily.

Participant C identified 'yelling', 'self control' and 'quality family relationships' as target complaints. During baseline, 'yelling' improved and the other two functions showed no change. During treatment, 'yelling' was unstable and showed no overall improvement at post-treatment or at follow up (Figure 9). 'Self control' and 'quality family relationships' had an overall improvement at post-treatment and continued to improve across follow up.

Participant D experienced an improvement during the baseline period in 'feeling trapped' and 'decision making' while her ability to 'handle conflict' decreased. All three measures fluctuated during the treatment period with a general trend towards improved family functioning (Figure 14). During follow up, 'feeling trapped' reduced to a low level, and both 'decision making' and 'handling conflict' also improved.

### Attendance

There was a high rate of attendance with all participants attending at least three quarters of the total sessions see Table 7.

Table 7: Participant Attendance

<u>Participant</u>	<u>Number of Sessions Attended</u>
A	16
B	17
C	19
D	19

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Total session =20

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### Group Goals

At the first session, participants identified 17 items as goals (Appendix F) that they all agreed they wanted to achieve during the training programme. Anecdotal evidence suggested that participants found most of these items difficult to achieve at the beginning of the programme. Items were rated on a 1 –7 likert scale (1=worst, 7=best) at mid-treatment, then again at post-treatment and again at follow up. A summary of scores is presented in Table 8. Scores above 5 indicated this item had been achieved. All participants showed an increase in goals achieved indicated by a larger number of items scored at greater than 5.

Goals took several weeks to achieve and by mid-treatment most items were not yet mastered. At mid-treatment only one participant (B) had achieved more than 9 items and three participants (A, C and D) had achieved 9 items or less. At post-treatment two participants (B & C) had achieved most of the items and the remaining two had achieved less than half the 17 items. Three of the participants (A, B & D) continued to achieve a greater number of items by follow up while participant C showed a slight decline in number of items achieved. All participants achieved some improvement on all items in the group goals during the treatment period.

Table 8: Participant Scores on Group Goals

Participant	Mid-treatment	Post-treatment	Follow up
	Number of items Scored > 5		
A	7	8	16
B	13	14	17
C	9	13	10
D	1	5	13

Note. There were 17 goals in total.

#### Parents' Satisfaction Questionnaire

The Parent Satisfaction Questionnaire completed at the conclusion of the training programme is presented in Appendix G. Participant responses were rated on a 1-7 likert scale where 1 is least satisfied and 7 is most satisfied. Sections from the questionnaire relating to family functioning are presented in Table 9a & 9b.





With regard to satisfaction with interaction skills (Table 9b), all participants gave ratings of 4 and above on items and two participants (C and D), gave satisfaction ratings of 6 and 7 on all items indicating high levels of satisfaction.

#### Programme Evaluation

In addition to the satisfaction questionnaire, a programme evaluation was carried out at post-treatment (Appendix J: Incredible Years Participant Evaluation). Participant responses have been rated into a 1-4 likert scale where 1 is least helpful and 4 most helpful. The results are summarised in Table 10.

Table 10: Participant Evaluation of Incredible Years Parent Training Programme: Helpfulness of programme components

Item	Participant			
	A	B	C	D
1	4	4	4	4
2	4	3	3	4
3	4	3	2	2
4	3	4	4	3
5	4	4	4	4
6	4	4	4	4
7	4	3	2	3
8	3	3	2	2
9	4	4	4	3
10	3	3	4	3

Rating scale:	1	2	3	4
	Not at all	A little	Quite a lot	A great deal

Items: Helpfulness of programme components<sup>4</sup>

1. I found the content of the course so far
2. I found the hand outs
3. The homework
4. I have been able to read the chapters readings
5. The facilitators' teaching has been
6. The group discussion has been
7. The videos have been
8. The role plays and opportunities to practice new skills have been
9. Has your relationship with your son improved since beginning this course?
10. Do you feel more confident in your parenting skills since beginning this course?

<sup>4</sup> Items included here for reader convenience

All participants reported that the parent-child relationship (item 9) (Table 10) had improved. Three participants (A, B, & C) reported ‘a great deal’ of improvement in the relationship since beginning the course. Confidence in parenting skills (item 10) was rated as improved for all participants with three (A, B, & D) participants rating ‘quite a lot’ more confident and one participant (C) reported feeling a ‘great deal’ more confident.

Anecdotal evidence from participants also supports the high level of satisfaction (see Appendix K: Participant comments). To summarise, responses from key questions related to the effectiveness of the overall programme and the usefulness of skills indicate that participants had a high level of satisfaction with the overall course and participants generally felt more confident and found most of the skills beneficial.

## CHAPTER 5: DISCUSSION

The results of this study provide evidence to support the hypothesis that the Incredible Years Parent Training has a beneficial effect on the functioning of families of children diagnosed with ADHD. The improvement in (a) teacher reports of child behaviours, (b) targeted family functioning problems, (c) number of goals achieved related to child behaviours and (d) the improvement in stress and depression scores for most participants provides some support for the efficacy of this programme. Importantly, all participants reported (a) high levels of satisfaction with the programme, (b) improvement in parent –child relationships, (c) increased confidence in parenting ability and (d) had high levels of attendance. However, parent reports of child behaviour in all cases did not consistently reflect improvement across treatment and thus did not provide strong support for the hypothesis. On the other hand, child behaviours rated daily did tend to reflect improvement in three of the four cases.

Previous research has found that parent training significantly reduced the observed rates of deviant child behaviour (Patterson, Chamberlain & Reid, 1982; Pollard, Ward, & Barkley, 1984; Kazdin, 1997). The current study supported this finding as reflected in teacher but not as much in parent ratings of observed behaviour. The low parent/teacher agreement on ratings has been reported in other studies (e.g., Furlong & Wood, 1998).

Other aspects of family functioning did show improvement across treatment. In particular, targeted family functioning, explicit treatment goals, and general levels of stress and depression improved in most cases. This is consistent with other studies showing that parent and family functioning improved with parent training (Anastopoulos, Shelton, DuPaul & Guevremont, 1993).

A number of factors could account for the equivocal findings in parent reports: the lack of independent observations of child behaviours in the home; the high number of individual, family, and community risk factors present for each participant; families were all selected from the wait list at CAMHS which puts them in the top 3% of

families with dysfunctional children; and the single case study design magnifies individual cases. In addition, parental psychopathology has been found to moderate ratings of child behaviour (Breen & Barkley, 1988; Mash & Johnston, 1990; Treacy, 2002). The fact that some parents reported increased levels of stress and depression may have influenced their ratings of their children (in particular, child C).

However, the Incredible Years does have empirical evidence supporting its efficacy in modifying behaviour of children with conduct problems (Herbert, 1995; Scott, Spender, Jacobs, & Aspland, 2001; Webster-Stratton 1994) in United Kingdom, Canadian and USA populations. Given the other supportive findings here, this research does go some way towards supporting the use of the Incredible Years parent training in a New Zealand setting to improve important aspects of functioning of families of children diagnosed with ADHD.

Children diagnosed with ADHD have unpredictable and diverse behaviours and this is evident in the unstable baseline child behaviours reported by both parents and teachers prior to training. The single most effective short term treatment for symptoms of ADHD is medication (Barkley, 1999; MTA, 1999; Weinberg, 1999). However, medication does not teach new skills nor does it address other dysfunctional domains in family functioning. Children selected for this study were all on methylphenidate to address their impulsivity and inattention, while parent training focused on teaching new skills and restructuring the home environment. In this way, medication and parent training were implemented as a combined intervention for improving family functioning. The emphasis on parent training is based on research indicating that parents of children with behaviour problems tend to exhibit fewer positive behaviours, are more critical, more likely to reinforce inappropriate behaviours, and to ignore or punish pro-social behaviours (Anastopoulos et al., 1992; Mash & Johnston, 1990; Scott et al, 2001; Webster-Stratton 1984). In order to change child behaviours, parents must first be trained to be more positive and consistent so they can 'alter the reinforcement contingencies that support the antisocial behaviour of their child' (Webster-Stratton & Herbert, 1993).

The Incredible Years Parent Training Programme has a number of features that may have contributed to the improved family functioning seen in the current study. The programme begins with an emphasis on building a positive parent-child relationship through play, praise, and positive attention. Participants reported anecdotally some positive changes in their children when they took the focus off problem behaviours and turned instead to building a positive relationship, developing their child's social competence, and increasing cooperation by reinforcing positive behaviours with praise and attention (see Webster-Stratton & Herbert, 1993). It is important to enhance the parent-child relationship if a broad range of disorders is to be affected (Eyberg & Robinson, 1982). Parents found this focus helpful and some comments from the first four sessions include: "It felt weird at first because I am usually nagging him about something" (participant C). "I began to notice lots of things he did that I took for granted and began to praise him. I am even hearing the other kids [non ADHD siblings] praise each other" (participant A).

The overall result of this focus perhaps was then reflected in perceptions of an improved parent-child relationship. Positive behaviours showed a small response early in the treatment programme and perhaps activated a positive cycle of improved relationships, greater co-operation, increased motivation, and slightly better behaviour. The 'spill over' effect for participants was generally less stress, greater confidence, improved mood, and improved family functioning.

## **Main findings**

There was an overall improvement in the functioning of families across treatment for most participants. This was observed primarily from measures used in the study but also included anecdotal comments.

### **Child behaviours**

Most child behaviours rated daily improved during the 20 week treatment, except one child (A) who showed little improvement. Changes in parental approach took several weeks to establish and while some child behaviours responded immediately others took longer to respond, particularly child B who showed greatest improvement in behaviour during the follow up period. In general, positive behaviours tended to respond in the

first few weeks when the programme emphasis was on play, praise, incentives, and setting limits. These strategies strengthen positive behaviour, reduce coercive interactions, and contribute to the development of social competence (Cunningham, 1999a). Negative behaviours, on the other hand, appeared more resistant and took longer to change particularly because extinguishing behaviour required consistency in parental response that was perhaps not yet established (see Martin & Pear, 1999; Webster-Stratton, 1994). Negative behaviours tended to respond when contingency strategies, consequences, and time out were introduced alongside praise and incentives after session 7.

Three of the four children showed an overall improvement in the daily behaviours but there seemed to be little treatment effect for child A. Subscale scores indicated severe oppositional, social, and learning difficulties. Among child characteristics, more severe and chronic antisocial behaviour and comorbidity predict reduced responsiveness to treatment (Kazdin, 1997). At follow up child A was living with his father, who had not attended the training programme and follow up daily behaviours were not able to be collected. Both parents completed the follow up psychometrics although some caution must be used when interpreting the father's scores, as it was in his best interests to under report owing to his disagreement on the need for medication and discrepancies in child management. The father's scores indicate no significant problems on any of the scales or subscales. This is in contrast to both the teacher and participant A, who reported several areas of concerns on subscales measuring oppositional, hyperactivity, social, and restless impulsive characteristics.

On those measures where comparisons could be drawn, parent reports of child behaviour were generally reflecting more problems compared to teacher reports (Achenbach, 1992). While parents reported feeling better about their parenting skills and more positive about family relationships, their perception of child behaviour was often not as positive as teachers. Parents often lack the opportunity to compare their child's behaviour with a number of other age related peers, whereas teachers have ready comparisons in the classroom and may have more realistic and perhaps more objective expectations of age appropriate behaviour.

### Weekly family functioning

Weekly family functioning improved across treatment for all participants on each item measure except one (participant C 'yelling'). These 11 items showed an overall average of a four point improvement across participants and most items were at the maximum best score at follow up. For participant C, 'yelling' showed no change. Participant C reported that the whole family yelled, and yelling was a particularly difficult trait to bring under control. For all families (particularly family C), the improvement in targeted family functions occurred even when there was little or no change in child daily behaviours.

### Parent functioning

Parental stress and depression scores showed an overall improvement for three participants (A, B, & D) and two of these (participant B & D) had scores below clinical levels in both domains at follow up. The improvement in participants' stress and depression was independent of improvement in their ratings of child behaviours. Skills acquired from parent training may help parents cope more effectively in the face of stressful situations (Webster-Stratton & Herbert, 1993). One participant (C) showed no overall improvement in stress and depression, and at follow up had clinically significant scores in both domains. This was apparently related to wider historical personal issues for which she required specialist support. In spite of high levels of depression and stress, participant C reported improved ratings on two targeted family functioning items, high level of achievement on treatment goals, above average ratings on the satisfaction questionnaire, and greater confidence and improved relationship with her son. In addition, participant C's anecdotal comments generally expressed high levels of confidence and coping. For her, there was a clear discrepancy between psychometric scores and these other ratings.

### Group goals

There was a clear improvement on group goals. During treatment, all participants achieved some improvement on each item. By follow up, all participants had achieved more than half the goals identified and two participants (C & D) had achieved almost all items. Identifying and working towards goals is a personal skill that was being modelled and practiced on a weekly basis as participants set and evaluated goals for their weekly home activities.

### Parent Satisfaction

All parents were highly satisfied with the programme and reported that they would recommend the programme to a friend. The level of satisfaction was also evident in their commitment to the course in terms of attendance, group participation, and completing home activities. At the final session, there was reluctance to accept that the course had come to an end and there were comments like “I have learnt such a lot in this course, the readings are really great- there is so much we covered” (participant A). “I will really miss this support. I learnt to control my temper and be more patient” (participant B). “This course is the best thing since sliced bread. I now have tools to deal with his behaviour. Thursdays won’t be the same without it” (participant C). “The course overall was excellent. The programme has given me a much more positive approach and I am not using physical measures any more. I don’t feel like I need to smack him any more, I use other measures” (participant D).

### Consideration of Potential Moderators

#### Multiple Systems Intervention

The family who showed the greatest overall change also received the most intervention across multiple systems (family B). There were major health, social, and financial issues impacting on this family. Child B was subject to a physical assault in week three (day 30) and experienced trauma as a result. There was little change in family functioning during the first 4 weeks while these issues were unresolved. Intervention from week 13 of treatment involving “Strengthening Families” implemented a systemic approach to address all interrelated systems and the effect they had on each other (Kazdin, 1998). This involved specialist child services, dietician input, educational support, and social services to address housing and financial debt. By follow up, when the effect of these services had a chance to be in place, there was a noticeable change from the mother’s perspective in the child’s behaviour and overall family functioning. There were multiple agencies working with family B and it is therefore difficult to identify the main source of the intervention effect. However, it is clear that if these areas were not addressed, the family would not have been able to make changes in the way they functioned.

#### Home Environment

Instability in the child’s environment has an impact on child behaviour (Mash & Johnston, 1990). It is also known that families of children with ADHD move more

frequently (Barkley, 1999) and this can create instability. Each family in the research either changed school or moved house during the treatment period. In each instance, there was a corresponding deterioration in some behaviours. Children with ADHD find adjustment to change difficult and respond best to a structured, predictable environment (Holowenko, 1990).

Conflict in personal relationships can affect parental stress and depression levels (Mash & Johnston, 1990; Treacy, 2002). One participant (C) experienced a major relationship crisis after treatment. This was reflected in family functioning scores and parent (but not teacher) scores of child behaviour being in the clinical range at follow up. These difficult personal events likely affected participant C's functioning, her perspective of her son's behaviour and, as a result, her stress and depression scores were in the clinical range at follow up. The negative impact of discord, depression, and negative life stressors on family functioning is consistent with other research (Anastopoulos et al., 1992; Kazdin, 1997; Webster-Stratton, 1994). Participant C was referred for follow up and has received individual counselling. Not everyone responds to group treatment, particularly those families coping with complex patterns of comorbidity and who are experiencing high levels of stress. Power et al. (2002) suggests these families may derive greater benefit from an individualised and perhaps multiple systems approach to care.

Holiday times (between session 10 and 11) were often a time of difficulty for some families as the need for regular structured activities and timetables were more difficult to keep and there was little respite from the care taking demands across participants.

#### Social Isolation

All research participants were solo parents with reportedly few friends and little involvement in community groups. Most of them were unemployed, socially isolated, and with few family supports. Social isolation is a factor that may compromise parenting and limit the effectiveness of a parent training programme (Cunningham, 1999a). On the other hand, parent groups can become an empowering environment for these parents, decreasing their insularity and giving them new sources of support (Webster-Stratton & Hancock, 1998). One of the benefits of group training identified by Webster-Stratton and Hammond (1990) is the friendships that develop during the course

and sometimes continue outside of the training sessions. However in this research group, even though participants were observed to be supportive and demonstrated a general feeling of acceptance and empathy, there were no personal friendships that were reported to develop outside of the training sessions.

#### Parent Commitment

Webster-Stratton and Herbert (1993) found that a collaborative model that holds parents responsible for solutions is more likely to increase parents' commitment, sense of confidence, self sufficiency, and perseverance with effective coping skills. In this research, there was a high level of parent commitment indicated by excellent attendance. In addition, the impression of the group facilitators was that there were enthusiastic contributions to general discussions, a willingness to suggest things that *would* work in their families (rather than focusing on things that wouldn't work), and genuine attempts to try new skills.

#### Time To Change

The 20-week programme allowed time to shape behaviour change and to stabilise new behaviours with the support of the group before the programme ended, thus providing a greater chance for long-term stability compared to a shorter term programme. In fact, some functioning areas continued to improve during the follow up period. There is a tension between the need to have more abbreviated and cost effective treatments on the one hand and to combine parent training with other treatment modalities in a multimodal intervention on the other hand (Kazdin, 1997; Webster-Stratton, 1998, 1998a). Scott (1998) found a median of 21 hours of treatment was necessary to achieve substantial improvement that was maintained at 12 months. The present research was 20 weeks (40 hours). This timeframe apparently was no deterrent to participants as indicated by the high attendance and some expression of regret when the programme finished.

#### Effect on Non ADHD Siblings

Some parents (A & C) reported anecdotally that siblings without ADHD responded rapidly to the new parenting environment and techniques, and became role models for the children with ADHD. Other studies report a treatment effect where siblings evidence a reduction in deviant behaviour (Kazdin, 1997; Eyberg & Robinson, 1982).

### Relationships in the Family

Following the sessions on personal skills, anger management, communication, and problem solving (sessions 11-14), participants commented on improved family relationships and reported more stability in their targeted family functioning behaviours. Parents reported feeling more in control and having increased confidence to implement strategies they had practiced in the sessions. They also commented that they were more aware of positive behaviours in their children in general but particularly in their child with ADHD. They were then better able to reinforce appropriate behaviours with praise and attention. This change in apparent focus was perhaps then reflected in changes in family functioning ratings.

### Group Dynamics

The optimum group size is said to be between 10 and 14 people (Webster-Stratton, 1999). The group for this research initially numbered 11 including the four research participants, five non-research participants and two facilitators. This size allows for opportunities to share in the group, as well as be less intense for individuals.

Establishing ground rules in session one was designed to help participants to feel 'safe' and share openly if they chose.

Parents reported anecdotally that being in a group with other parents of children with ADHD was supportive and encouraging. They were seen to strongly identify more with each other as they shared their experience of parenting. Comments about their experience like "I feel a failure" (participant D), "I can't take him anywhere, I feel trapped in my own home" (participant A) and "I am afraid for his future" (participant B), were received with affirming acknowledgement from other participants. Over time, the group support appeared to help sustain and motivate them between sessions. A participant (participant C) expressed this at the third session when she arrived saying "I am so glad it is Thursday and I can come here, this group is what gets me through the week". Towards the end of the training, there were comments like "What am I going to do without the group" (participant A) and "Being part of the group was really helpful" (participant D).

The group effect was seen anecdotally to have an empowering effect for participants. Future research might attempt to quantify this effect as well as look more systematically

at other moderators suggested in this section, including for families with high levels of dysfunction the role of this intervention as part of a larger multiple systems effort (e.g. multisystemic therapy (MST), Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998).

### **The Incredible Years Parent Training Programme**

Incredible Years Parent Training programme has specific characteristics that may have accounted for the positive intervention effect on the functioning of families of children with ADHD as seen in the current study.

#### Programme structure and order of topics

The programme is structured so that it begins with building a positive parent-child relationship. The first topic is play (session 1 & 2), a fun, non-threatening subject that focuses on activities and relationships rather than on problem behaviours. Instead of trying to control their child and bring about a change in behaviour, the aim was to have fun, spend time together, and allow the child to take the lead in the play activities. The foundation of a positive parent-child relationship was strengthened with the next topics. Praise, encouragement, and rewards focused on giving positive attention to appropriate behaviours and affirming personal characteristics (session 3 & 4). It is common for families to be entrenched in a negative cycle of reaction and punishment and fail to acknowledge and praise any pro-social behaviour. In doing so, they unwittingly begin to reinforce negative behaviours with attention. Raising awareness of this process and practising giving attention to appropriate behaviours helps to bring about change.

#### Effective Behaviour Modification Strategies

Building on a foundation of play, praise, and encouragement, the programme teaches a number of effective strategies for changing behaviour (limit setting, consequences, & timeout, session 5-10). These are modelled and rehearsed in the session so that parents master the skill and are confident to implement them in their homes with an expectation for success. These strategies work best when there is a strong positive parent-child relationship where the child is motivated to retain attention and approval in that relationship. For example, when timeout is implemented, the child is denied access to positive reinforcement and parental attention. The aim is to stop the conflict, provide a cooling off time to regain control, and then be given another chance to be successful. It

gives the child time to reflect and fosters the development of an internal sense of responsibility and self-control (Webster-Stratton, 2000).

#### Coping Model and Personal Skills

As well as giving practical strategies for modifying behaviour, there is a cognitive component to the teaching that identifies how negative automatic thoughts and beliefs influence behaviours. These sessions (session 13-14) help participants to understanding the relationship between “what we *think* about a situation, how we *feel* about it, and how we *behave* (Webster-Stratton, 1992, p.116). Attention was paid to ‘self talk’. Parents were encouraged to reframe any automatic thoughts that were negative, distorted, or illogical. For example ‘he is doing this to annoy me’ might be amended to ‘he is testing the boundaries and I need to show him there are limits’. Unhelpful child comments and behaviour wears down many parents, so that their own thoughts then promote or maintain negative feelings and predict parenting failure (Cunningham, 1999a). Also, frequent critical messages from personal and professional sources about their shortcomings as parents, tends to lower morale and sap self-esteem and confidence of parents of ADHD children (Herbert, 1995). The Incredible Years Programme encourages parents to actively formulate positive statements about themselves and to praise and affirm themselves with positive self-talk. Reframing negative thoughts to coping thoughts was designed to change parent’s feelings, give them hope, and assist problem solving. One helpful tool for participants may have been the realisation that it is their own thoughts and problem solving actions that control their experience. It is not the event that makes one mad but how one views it (Webster-Stratton 1992).

An added strength of the Incredible Years Programme is the inclusion of personal communication, problem solving skills, and stress management modules (sessions 11-15). These are skills that many parents find difficult particularly when under pressure as well as coping with challenging child behaviours. Other studies have found that supplementing parent training with sessions that address parent and family stressors and include cognitively based problem solving, have reduced drop out rates, improved clinical outcomes, and increased positive communication and collaboration between parents (Cunningham, 1999a; Kazdin, 1997; Webster-Stratton, 1994).

### Variety of Learning Techniques

The Incredible Years Parent Training Programme used multiple learning modes that included facilitator input, group discussion, videotape modelling, rehearsal and feedback, home activities, and a realistic timeframe to make change.

### Facilitator Input

Facilitators worked supportively with parents in a collaborative relationship to build on parents' strengths and experiences in order to empower them (Webster-Stratton, 2000). Each session had some input from the facilitator during the discussion that covered the main points for the session. Sometimes the key points were also reinforced by a short commentary on the videotape. Parents reported finding this input helpful as it often reinforced what they already knew, gave alternative strategies and highlighted practical techniques for implementing them. Group discussion often included strategies, that had worked for participants and suggestions to support others to find workable solutions.

Co-facilitation allowed for small group work, increased ability to observe interaction and reaction within the session, and a sharing of the leadership roles. It also provided clinical support, feedback, and evaluation of the process.

Participants responded to the collaborative approach where their skills and strengths were recognised and built upon to bring about change. This style of coaching allows parents to see the connection between their interactions and the child's behaviour. When parents understood the rationale behind the strategies, they are often more successful in generalising new skills to other situations (Taylor & Biglan, 1998). For one participant (participant D), the key to the success for her was 'having to take responsibility for solutions and to work out what would work'. Herbert (1995) reports that parents who are self efficacious tend to persist at tasks until success is achieved, and those who "own" outcomes are more likely to persist in the face of difficulties and are less likely to show debilitating effects of stress.

### Videotape Modelling

Watching examples of appropriate and some inappropriate behavioural techniques gave the participants the opportunity to comment on how well the people in the vignette were carrying out the new strategy. At times, participants were quite critical of the vignette examples and would disagree on how effective the technique was. This provided many

opportunities to explore why it wouldn't work in their families and to identify what would work for them. The use of videotape modelling has been shown to be more effective in improving parent-child interactions compared with group discussion and one-to-one therapy (Webster-Stratton, 1994). In addition, 'randomised controlled trials have shown that video-based treatment, particularly in group format and when supplemented with therapist-led discussions, leads to clinically significant changes at post-treatment, and that these changes are maintained at follow up 1 and 3 years later' (Kazdin, 1995, p.1352). Visual learning is also more accessible to parents who have reading difficulties and videotapes provide a more "user friendly" method of treatment because they can portray a wide variety of models in different settings and situations that may help parents to generalise the concepts (Herbert, 1993).

#### Rehearsal and Feedback

Experiential learning in the form of role plays and rehearsal gave the opportunity to practice techniques with feedback and support from the group before using it in the home. Role playing or rehearsal of newly acquired behaviours has been shown to be quite effective in producing behavioural change (Webster-Stratton & Hancock, 1998). In addition, role reversal provided valuable insight into the behaviour from the child's perspective or from another adult's viewpoint. Parents were able to learn as they observed each other practice and also provide feedback on their own and others' role plays.

#### Home Activities and Follow Up

Each topic was reinforced with activities to be carried out in the home and these were reported on at the beginning of the next session. This gave the message that 'participation in group therapy is not a passive exercise and certainly not magic' (Herbert, 1995, p. 338). Parents are the ones to make change in their homes with the support of the facilitator (Webster-Stratton, 1998). The assignments helped to transfer what was talked about in the session to the real life situations. Mid-week phone calls also reinforced the learning and gave a chance to clarify issues and be encouraged, particularly if a session had been missed.

#### Community Based

Sessions were carried out in a community centre, easily accessible and independent from the clinical setting where they had been assessed. Community settings decrease

many of the obstacles among families who otherwise could not participate in treatment (Cunningham, 1999).

### **Limitations of current research**

All participants in this research were single parents and did not have a ‘significant other’ attending the programme to support the implementation of new strategies. Research shows that change occurs more predictably when parents are supported and encouraged by another adult in the home environment (Webster-Stratton, 1998). Only one participant (participant A) had a support person in the community to encourage her. This support aspect could be given more emphasis in a future training programme. Secondly, there were no fathers in the research group. Typically, fathers of ADHD children are more verbose in their parenting style and tend to use more physical punishment than fathers of children without this disorder (Mash & Johnston, 1990). Targeting fathers would provide an additional intervention and support for male role models in the community. Ways to include fathers in parenting programmes could be addressed in further research. However, research also shows that parents of children with ADHD are frequently solo and more often the mother takes primary responsibility for the care of the child (Cunningham, 1999a; Mash & Johnston, 1990). In this respect, participants in this research may accurately reflect the true nature of the population parenting children with more severe levels of ADHD.

A third limitation was the lack of independent child observations. Including such observations would provide a different perspective on changes in observed child behaviour in the home. Related to this, some assessment measures were administered by the researcher as indicated in the methods section. That is, no independent assessor was available to provide independent assessment. However, this is not an uncommon strategy when working with severely dysfunctional families (e.g. MST outcome studies, Henggeler, et al., 1998).

Finally, there was no educational assessment carried out for the participant’s children as part of this research. If this aspect of the child’s environment is addressed, it may improve outcomes for family functioning. It is well established that children with

ADHD often have associated learning and or social difficulties. If these could be identified and addressed, alongside the changes in parenting strategies, then opportunity for change would be increased. The addition of child educational assessment and involving the teachers is likely to improve the outcomes (Webster-Stratton, 1998).

## **Future Research**

### Teacher Training

The Incredible Years Series also has a programme to train teachers in strategies to manage children with difficult behaviours in the classroom setting. Behaviour modification strategies need to be consistent across settings for maximum results in child behaviour to be achieved. This is particularly so with children diagnosed with ADHD because of their difficulty generalising learning and behaviour. Implementing the Teacher Training Programme as well as Parent Training is likely to result in greater change but would also add to the cost. Webster-Stratton (2000) found that teachers and parents from combined intervention reported a significantly higher level of collaboration, stronger home-school connections and, at post-treatment, children with fewer behaviour problems.

There is some evidence that contingency management by teachers results in increased academic productivity and efficiency, as well as decreases in disinhibited and disruptive behaviour. However, there is little evidence for generalisability and maintenance of improved behaviours once such a programme led by teachers is stopped (Hinshaw, 1994). On the other hand, the effectiveness of the Incredible Years intervention could expect to be enhanced if both parents and teachers worked together collaboratively (Power et al. 2002).

### Monitoring Medication

This study made no attempt to monitor medication. A further study could work in close liaison with medical colleagues to track changes in medication over the treatment period. It would be anticipated that children could be managed on lower doses of stimulant medication when behavioural strategies are in place (MTA, 1999).

## Bicultural Focus

Finally, further research could take into account the bicultural focus of New Zealand society and investigate if this programme is appropriate and efficacious for the functioning of Maori, as well as Pacific Island, Asian, and other families. Such issues as variation in parenting practices, family values, the role of extended family, expectations for self control, and other factors could influence the effectiveness of the programme. While the Incredible Years Programme has been trialed in Canada, United Kingdom and in multicultural settings in the USA, there may be cultural issues relevant for Maori and other families that could be identified.

## **Clinical Implications for the community**

With the increased prevalence of ADHD and the growing rate of family dysfunction and distress, it is critical for the general health of a community that an effective programme be readily available in multiple services through out the community. It is also important that agencies work collaboratively to support the intervention in a multi modal approach.

Following the completion of this research project, eight community agencies with a common interest in family health and behavioural management expressed an interest in using the Incredible Years Parent Training Programme in their service. The researcher has since facilitated informal workshops providing information on the theoretical and philosophical background of the programme, the research history and efficacy, along with practical facilitation skills for implementing the programme within an agency. An outcome of this information sharing is the establishment of a guardian group to maintain the resources, monitor the delivery, support the facilitators, and to collect data on each course. The efficacy of the programme is dependent on the professional standard of delivery by facilitators and this must be maintained. The communication and support network between the agencies has enabled facilitators to share resources, support each other in planning and implementation, and to be encouraged by the success stories from families in the groups. Following the training workshops, two of the agencies have begun to use the Incredible Years Parent Training Programme to support families in their service. Two other agencies plan to run the programme in the near future as one of

their interventions. This development is likely to have a positive impact on many families of children with behavioural problems as well as the community as a whole.

## **Conclusion**

ADHD in children is a behavioural disorder that affects around 5% of school aged children. It is the most common diagnosis given to children in mental health services and prevalence rates are increasing both overseas and in New Zealand. Children with ADHD have difficulties with hyperactivity, inattention, and behavioural inhibition. There is a high incidence of comorbidity with social problems, learning difficulties, anxiety, depression, and other more serious anti-social behaviours such as oppositional defiant disorder and conduct disorder. These difficulties are often associated with parental and family stress, and many parents do not have the skills to manage difficult and aggressive behaviour. While medication is the single most effective treatment for the core symptoms of ADHD it does not address social skill deficits for both parent and child, nor does it address the associated parental stress. Left untreated, ADHD has a high cost to individuals, families, and society as a whole.

Parenting is an important public health issue for today's society. It is a key factor in the development of emotional and social well being for our children, and impacts on their functioning as adolescents and adults. Parenting children with difficult behaviour is challenging and stressful. Interventions to support parents to be effective in their role will benefit the child, family, and society.

The Incredible Years Parent Training Programme is an empirically based intervention that has been widely researched. The present study using Incredible Years Parent Training programme found (a) improvement in teacher reports of child behaviour but generally not in parent psychometric reports, (b) improved targeted family functioning problems, (c) high number of group goals achieved related to child behaviours, (d) reduced stress and depression levels for most participants (e) reports of better parent-child relationships, and (f) increased parental confidence. Additionally, participants were all highly satisfied with the programme. Findings support the use of the Incredible Years Parent Training Programme as an effective low cost intervention to improve the functioning of parents and of children with ADHD.

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## Appendix A: *DSM IV Criteria for ADHD*

### A. **Either (1) or (2)**

**(1).** 6 (or more) of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with development level:

#### **Inattention**

- (a) Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- (b) Often has difficulty sustaining attention in tasks or play activities
- (c) Often does not seem to listen when spoken to directly
- (d) Often does not follow through on instructions and fails to finish school work, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)
- (e) Often has difficulty organising tasks and activities
- (f) Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- (g) Often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books or tools)
- (h) Is often easily distracted by extraneous stimuli
- (i) Is often forgetful in daily activities

**(2).** 6 or more of the following symptoms of **hyperactivity- impulsivity** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with development level:

#### **Hyperactivity**

- (a) Often fidgets with hands or feet or squirms in seat
- (b) Often leaves seat in classroom or in other situations in which remaining seated is expected
- (c) Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- (d) Often has difficulty in playing or engaging in leisure activities quietly
- (e) Is often "on the go" or acts as "driven by a motor"
- (f) Often talks excessively

#### **Impulsivity**

- (g) Often blurts out answers before questions have been completed
- (h) Often has difficulty awaiting turn
- (i) Often interrupts or intrudes on others (e.g. butts into conversations or games)

**B.** Some hyperactive-impulsive or inattentive symptoms that cause impairment were present before age 7 years.

**C.** Some impairment from the symptoms is present in two or more settings (e.g. school [or work] and at home).

**D.** There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

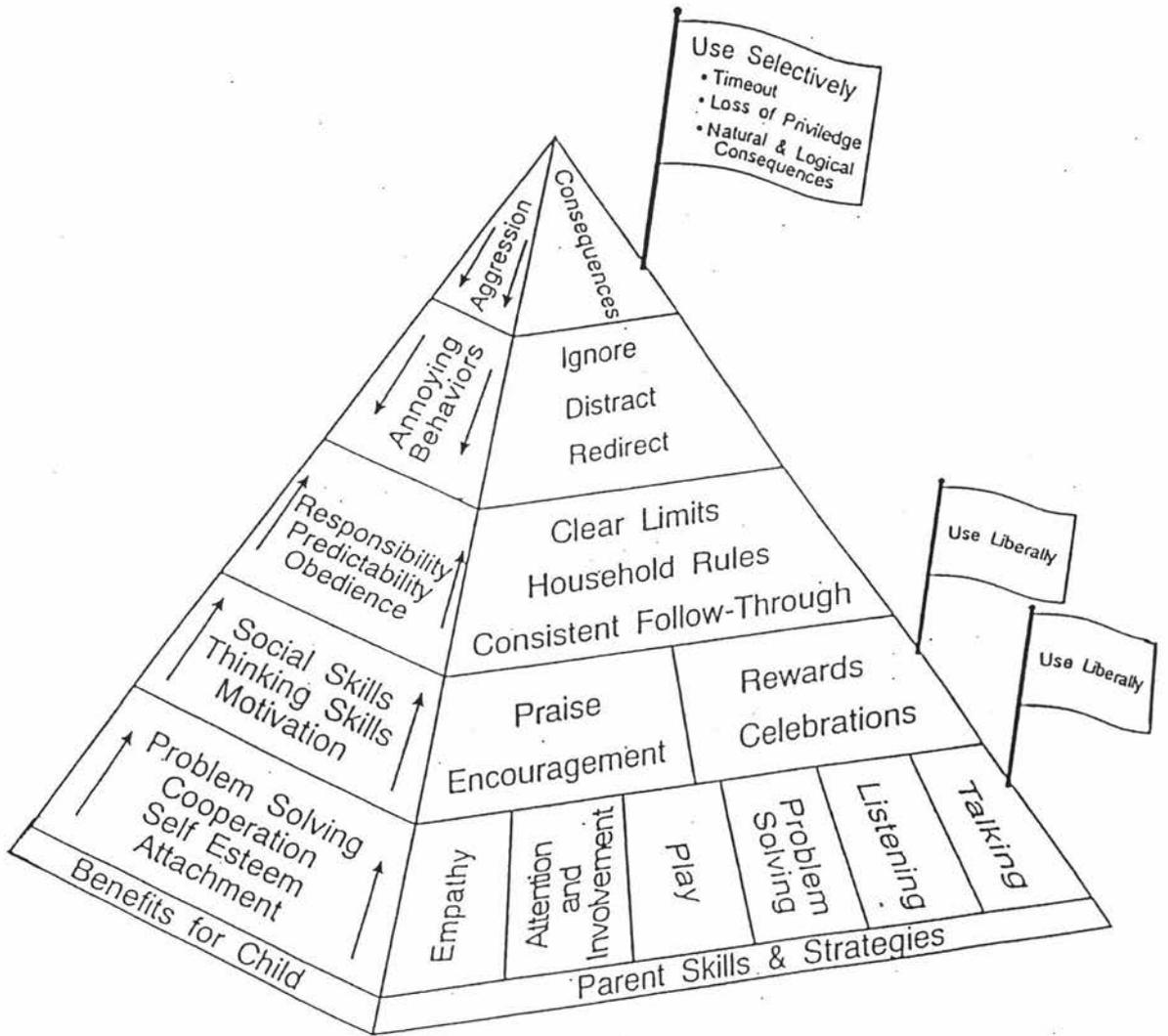
**E.** The symptoms do not occur exclusively during the course of a Pervasive Development Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g. Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder)

ADHD, Combined Type - if both A1 and A2 for at least 6 months

ADHD, Predominantly Inattentive Type

ADHD, Predominantly Hyperactive-Impulsive Type

## Appendix B: Parenting Pyramid



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Additional Concerns:

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Functional Analysis of Presenting Problems

Age of onset and duration

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Situation and pervasiveness

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Triggers and aggravating factors

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Behaviour Control Measures

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## Incentives and Consequences

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### **Areas for development if disruptive behaviour is a problem**

- |  |                          |
|--|--------------------------|
| Playing with and giving positive attention to children | <input type="checkbox"/> |
| Giving praise  | <input type="checkbox"/> |
| Giving tangible rewards                                | <input type="checkbox"/> |
| Giving effective instructions                          | <input type="checkbox"/> |
| Using timeout  | <input type="checkbox"/> |
| Using natural and logical consequences                 | <input type="checkbox"/> |
| Teaching children to problem-solve                     | <input type="checkbox"/> |
| Self management for parents                            | <input type="checkbox"/> |
| Problem-solving with children and other adults         | <input type="checkbox"/> |

**B: Personal history**

Self esteem, activities, interests, plans for the future

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Temperament

Tick appropriate box

- |                                       |  |  |                                   |
|---------------------------------------|--|--|-----------------------------------|
| <input type="checkbox"/> Shy or timid | <input type="checkbox"/> Cautious                              | <input type="checkbox"/> Head banging    |                                   |
| <input type="checkbox"/> Stubborn     | <input type="checkbox"/> Under-active                          | <input type="checkbox"/> Easy to manage  |                                   |
| <input type="checkbox"/> Affectionate | <input type="checkbox"/> Over active                           | <input type="checkbox"/> Falling spells  |                                   |
| <input type="checkbox"/> Rocking      | <input type="checkbox"/> Mood swings                           | <input type="checkbox"/> Into everything |                                   |
| <input type="checkbox"/> Dare-devil   | <input type="checkbox"/> Happy                                 | <input type="checkbox"/> Temper outburst |                                   |
| <input type="checkbox"/> Aggressive   | <input type="checkbox"/> Impulsive                             | <input type="checkbox"/> Blank Spells    |                                   |
| <input type="checkbox"/> Fearful      | <input type="checkbox"/> Poor sleep                            | <input type="checkbox"/> Curious         |                                   |
| <input type="checkbox"/> Slow to warm | <input type="checkbox"/> More interested in things than people |  |                                   |
| Bowel trained                         | <input type="checkbox"/> Average                               | <input type="checkbox"/> Early           | <input type="checkbox"/> Late     |
| Bladder trained                       | <input type="checkbox"/> Average                               | <input type="checkbox"/> Early           | <input type="checkbox"/> Late     |
| Eating behaviour                      | <input type="checkbox"/> Picky                                 | <input type="checkbox"/> Eats too much   | <input type="checkbox"/> Overeats |

**C: Previous History**

Tick appropriate box

- Previous mental health difficulties
- Previous treatment difficulties
- Family psychiatric history
- Positive medical history

Tick if any of the below are relevant for you or your family

- |                         |                          |                        |                          |
|-------------------------|--------------------------|------------------------|--------------------------|
| Anger Management Course | <input type="checkbox"/> | Parent Training Course | <input type="checkbox"/> |
| Depression              | <input type="checkbox"/> | Anxiety                | <input type="checkbox"/> |
| Psychosis               | <input type="checkbox"/> | Disruptive behaviour   | <input type="checkbox"/> |
| Previous trauma         | <input type="checkbox"/> | Fits/seizure           | <input type="checkbox"/> |
| Drug & alcohol          | <input type="checkbox"/> | Allergies              | <input type="checkbox"/> |
| Sexualised behaviour    | <input type="checkbox"/> | Head injury            | <input type="checkbox"/> |
| Other illness           | <input type="checkbox"/> | Hospitalisation        | <input type="checkbox"/> |

Describe

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**D: Developmental History**

Tick appropriate box

Pregnancy difficulties	<input type="checkbox"/>	Premature baby	<input type="checkbox"/>
Delivery unusual in anyway	<input type="checkbox"/>	Caesarean section	<input type="checkbox"/>
Bonding experience positive	<input type="checkbox"/>	Problems with feeding	<input type="checkbox"/>
Did mother use alcohol	<input type="checkbox"/>	Post birth difficulties	<input type="checkbox"/>
Post natal depression	<input type="checkbox"/>	Did mother smoke	<input type="checkbox"/>

Birth weight

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Describe

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**Milestones**

Sitting, crawling, walking	<input type="checkbox"/> Normal	<input type="checkbox"/> Fast	<input type="checkbox"/> Slow
Speech & language	<input type="checkbox"/> Normal	<input type="checkbox"/> Fast	<input type="checkbox"/> Slow
Handedness	<input type="checkbox"/> Normal	<input type="checkbox"/> Fast	<input type="checkbox"/> Slow
Self-help skills	<input type="checkbox"/> Normal	<input type="checkbox"/> Fast	<input type="checkbox"/> Slow

E: Educational History

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Name of School \_\_\_\_\_

Teacher \_\_\_\_\_

Year \_\_\_\_\_

How does the school describe your child's behaviour  
(Education difficulties and strengths / favourite subjects)

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Previous schools attended

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\* Tick the appropriate box if your child has difficulties at school

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Does not do homework     | <input type="checkbox"/> Forgets tasks                         | <input type="checkbox"/> Few friends   |
| <input type="checkbox"/> Poor handwriting         | <input type="checkbox"/> Incomplete work                       | <input type="checkbox"/> Loses friends |
| <input type="checkbox"/> Poor reading skills      | <input type="checkbox"/> Poor maths                            | <input type="checkbox"/> Distracted    |
| <input type="checkbox"/> Does not remain seated   | <input type="checkbox"/> Poor attention                        | <input type="checkbox"/> No friends    |
| <input type="checkbox"/> Poor written language    | <input type="checkbox"/> Test anxiety                          | <input type="checkbox"/> Controlling   |
| <input type="checkbox"/> Poor spelling            | <input type="checkbox"/> Risky behaviours                      | <input type="checkbox"/> Too shy       |
| <input type="checkbox"/> Trouble Making friends   | <input type="checkbox"/> Non Compliant                         | <input type="checkbox"/> Too Timid     |
| <input type="checkbox"/> Mean, aggressive         | <input type="checkbox"/> Starts but does not finish homework   |  |
| <input type="checkbox"/> Fails to check homework  | <input type="checkbox"/> Excessive time to complete tasks      |  |
| <input type="checkbox"/> Messy and disorganised   | <input type="checkbox"/> Previous school suspension            |  |
| <input type="checkbox"/> Many careless errors     | <input type="checkbox"/> Special education service involvement |  |
| <input type="checkbox"/> Attends Remedial tuition | <input type="checkbox"/> Talks out inappropriately in class    |  |
| <input type="checkbox"/> Any change in progress   | <input type="checkbox"/> Diagnosed with learning difficulty    |  |

Describe

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**B: Family History**

What other problems have the family experienced?

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Family interests

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Siblings

Names, Ages, and if any difficulties

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Family relationships and activities

i.e. parental, siblings, strengths, effect of problem on family functioning

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Parental difficulties:

i.e. difficulties in behaviour, relationships, or education

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## Appendix D: Daily Child Behaviours

Child Observed .....

Please score on a daily basis each of the following for your child.  
Write the score for each day:

	Date									
	Day 10	1	2	3	4	5	6	7	8	9
	<i>Not at all</i>	1	2	3	4	5	6	7	<i>A lot</i>	
Completes tasks on time	1	2	3	4	5	6	7			
Complies with requests	1	2	3	4	5	6	7			
Plays nicely with siblings or other children	1	2	3	4	5	6	7			
Shows respect for others feelings	1	2	3	4	5	6	7			
Wait his/her turn to speak	1	2	3	4	5	6	7			
Interrupting adults, demanding attention	1	2	3	4	5	6	7			
Argues, talks back to parents	1	2	3	4	5	6	7			
Hitting, kicking, biting others	1	2	3	4	5	6	7			
Being hyperactive or noisy, running round	1	2	3	4	5	6	7			
Yelling having temper tantrums	1	2	3	4	5	6	7			

## Appendix E: Weekly Measures of Family Functioning

**Name:** \_\_\_\_\_ **Family of:** \_\_\_\_\_

Identify three areas of family functioning that you want to improve that relate to the programme you will be involved with. Recalling the last week, rate each area on a scale of 1 – 7. 1 = least 7 = best

- E.g. If *coping* is a target area. Remembering the time you felt you were *coping* the best, give this a score of 7.
- Remembering the time you felt you were *coping* least, give this a score of 1.
- How well have you been *coping* over the last week?

	Date						
	Week 1	2	3	4	5		
<b>Family Functioning Area</b>	<b>Least</b>						<b>Best</b>
<b>One</b> .....	1 2 3 4 5 6 7						
<b>Two</b> .....	1 2 3 4 5 6 7						
<b>Three</b> .....	1 2 3 4 5 6 7						

	Date											
	August	September	October	November	December							
<b>Family Functioning Area</b>												
<b>One</b> .....												
<b>Two</b> .....												
<b>Three</b> .....												

## Appendix F: *Group Goals*

These are the goal group goal set at the beginning of the course. Now we have completed the program, how well have these been achieved for you and your family? Please rate them on a scale of 1 – 7 where 1 is worst and 7 is best

	Worst						Best
▪ Introduce normality in our lives	1	2	3	4	5	6	7
▪ Skills to make life easier	1	2	3	4	5	6	7
▪ Help children socialize with friends/siblings	1	2	3	4	5	6	7
▪ Learn to deal with Stress	1	2	3	4	5	6	7
▪ Help child with Anxiety	1	2	3	4	5	6	7
▪ Deal with disruptive behaviour	1	2	3	4	5	6	7
▪ Better sleeping patterns	1	2	3	4	5	6	7
▪ Controlling temper...self management	1	2	3	4	5	6	7
▪ Getting child to co-operate	1	2	3	4	5	6	7
▪ Dealing with running away	1	2	3	4	5	6	7
▪ Decreasing aggression	1	2	3	4	5	6	7
▪ Reducing negative effects on siblings	1	2	3	4	5	6	7
▪ Problem of power and control	1	2	3	4	5	6	7
▪ Reducing swearing and bad language	1	2	3	4	5	6	7
▪ Feel better and more confident about myself.	1	2	3	4	5	6	7
▪ Improve personal self esteem	1	2	3	4	5	6	7
▪ Want to like them as well as love them.	1	2	3	4	5	6	7

## Appendix G: *Parent's Satisfaction Questionnaire*

Advanced Group

Parents Name \_\_\_\_\_

Date \_\_\_\_\_

The following questionnaire is part of our evaluation of the treatment program that you have received. It is important that you answer as honestly as possible. The information obtained will help us to evaluate and continually improve the program we offer. Your cooperation is greatly appreciated. All responses will be strictly confidential.

### The Overall Program

Please circle the response that best expresses how you honestly feel.

1. The major problem(s) that originally prompted me to begin treatment for my child is (are) at this point

considerably worse slightly the slightly improved greatly  
worse worse worse same improved improved

2. My child's problems which I/we have treated with clinic methods are at this point

considerably worse slightly the slightly improved greatly  
worse worse worse same improved improved

3. My child's problems which I/we have not treated with clinic methods are at this point

considerably worse slightly the slightly improved greatly  
worse worse worse same improved improved

4. At this point my feelings about my child's progress are that I am

very dissatisfied slightly neutral slightly satisfied very  
dissatisfied dissatisfied satisfied satisfied

5. To what degree has the treatment program helped with other general personal or family problems not directly related to your child? (e.g., marriage, my feelings in general)

hindered hindered hindered neither helped helped helped  
much more hindered slightly helped slightly helped very much  
than helped nor hindered

6. At this point my expectation for good results from this treatment is

very pessi slightly neutral slightly optimistic very  
pessimistic mistic pessimistic optimistic optimistic

7. I feel that the approach used to treat my child's behavior problems in this program is

very inappro- priate	inappro- priate	slightly inappro- priate	neutral	slightly appro- priate	appropriate	very appropriate
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8. Would you recommend the program to a friend or relative?

Strongly recommend	recom- mend	slightly recom- mend	neutral	slightly not recom- mend	not recommend	strongly not recom- mend
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9. How confident are you in managing current behavior problems in the home on your own?

Very confident	confident	somewhat confident	neutral	somewhat unconfident	uncon- fident	very unconfident
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10. How confident are you in your ability to manage future behavior problems in the home using what you learned from this program?

very unconfident	uncon- fident	somewhat unconfident	neutral	somewhat confident	confident	very confident
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11. My overall feeling about the treatment program for my child and family is

very negative	negative	somewhat negative	neutral	slightly positive	positive	very positive
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## B. Teaching Format

### Difficulty

In this section, we'd like to get your ideas of how difficult each of the following types of teaching has been for you to follow. Please circle the response that most clearly describes your opinion.

1. Lecture information by therapist (e.g., when therapist talked about how to listen, speak up etc)

extremely easy	easy	somewhat easy	neutral	somewhat difficult	difficult	extremely difficult
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2. Demonstration of skills through use of videotape scenes

extremely easy	easy	somewhat easy	neutral	somewhat difficult	difficult	extremely difficult
-------------------	------	------------------	---------	-----------------------	-----------	------------------------

3. Group discussion of skills

extremely easy	easy	somewhat easy	neutral	somewhat difficult	difficult	extremely difficult
-------------------	------	------------------	---------	-----------------------	-----------	------------------------

4. Practicing the skills at home

extremely easy	easy	somewhat easy	neutral	somewhat difficult	difficult	extremely difficult
-------------------	------	------------------	---------	-----------------------	-----------	------------------------

5. Other homework assignments

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

Usefulness

In this section, we'd like to get your ideas of how useful each of the following types of teaching is for you n=. Please circle the response that most clearly describes your opinion.

1. Lecture information

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

2. Demonstration of skills through use of videotape vignettes

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

3. Group discussion of skills

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

4. Practice of skills at home

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

5. Other homework assignments

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

**C. Advanced Sessions**

Difficulty

In this section we'd like to get your idea of how difficult it usually is to utilise the skills taught on the following topics. Please circle the response that most closely describes how difficult the following skills are to do.

1. Application of basic parenting skills learned (e.g., Praise, Time-out, etc.) to new child behavior problems which emerge.

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

2. Communication Skills with Adults (e.g., Active listening, Speaking up)

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

3. Anger Management

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

4. Depression Self-Control (e.g., Self talk)

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

5. Problem-Solving Skills With Adults

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

6. Communication Skills with Children

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

7. Problem-Solving Skills With Children

extremely easy      easy      somewhat easy      neutral      somewhat difficult      difficult      extremely difficult

Usefulness

In this section, we'd like to have your opinion of how useful each of the following skills is to you in improving your interactions with adults and children. Please circle the response that most closely describes the usefulness of the following skills.

1. Application of basic parenting skills learned (e.g.,Praise, Time out, etc.) to new child behavior problems which emerge.

Extremely Useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

2. Communication Skills With Adults (e.g., Active Listening, Speaking up)

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful

3. Anger Management

extremely useless      not useful      somewhat useless      neutral      somewhat useful      useful      extremely useful



5. Concerning my personal feelings toward my therapist

I dislike him/her very much	I dislike him/her	I dislike him/her slightly	I have a neutral attitude toward him/her	I like him/her slightly	I like him/her	I like him/her very much
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**Therapist**

\_\_\_\_\_  
(name)

In this section we'd like to get your ideas about your therapist(s). Please circle the response to each question that best expresses how you feel.

1. I feel that the therapist's teaching was

very poor	fair	slightly below average	average	slightly above. average	high	superior
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2. The therapist's preparation was

very poor	fair	slightly below average	average	slightly above. average	high	superior
--------------	------	------------------------------	---------	-------------------------------	------	----------

3. Concerning the therapists interest and concern in me and my problems with my child, I was

extremely dissatisfied	dissatisfied	slightly dissatisfied	neutral	slightly satisfied	satisfied	extremely satisfied
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4. At this point, I feel that the therapist in the treatment program was

extremely not helpful	not helpful	slightly not helpful	neutral	slightly helpful	helpful	extremely helpful
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5. Concerning my personal feelings toward my therapist

I dislike him/her very much	I dislike him/her	I dislike him/her slightly	I have a neutral attitude toward him/her	I like him/her slightly	I like him/her	I like him/her very much
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## **E. Your Opinion Please**

1. What part of the advanced (communication skills, problem solving, anger management) program was most helpful to you?
2. What did you like the most about the advanced program?
3. What did you like the least about the advanced program?
4. What part of the entire program was least helpful to you?
5. How could the entire program have been improved to help you more?
6. During the time you were in this program did you receive any other type of treatment for yourself or your child?
7. At this time do you feel the need for additional individual or group therapy? Please elaborate.

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## Appendix H: Information Sheet

### Information sheet:

#### Research Project:

The effect of Parent Training on the function of families with children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD).

You are invited to be one of four families within a group to participate in a research project to investigate the effect of Parent Training on the function of families with children diagnosed with ADHD.

#### Research Aims:

1. To improve the functioning of families of children with ADHD.
2. To identify an effective intervention for disruptive and impulsive behaviour displayed by Children with ADHD.
3. To teach parents skills that are effective in establishing functional behaviours in their families
4. To provide parents with strategies for modifying inappropriate behaviour.
5. To provide skills and strategies to reduce parental stress in the homes of children with **ADHD**

#### General Information:

It is well recognised that raising a child with ADHD is difficult and creates extra stress on the functioning of a family. Parents not only need information on the nature of ADHD, they need support to learn how to implement effective strategies for modifying inappropriate behaviours.

The Parent Training program used in this research is the 'Incredible Years Training Series'. These programs are designed to promote positive parenting strategies and to assist parents in managing children's difficult behaviour. Scientific evaluation of the "Incredible Years Training Series" found the programs to be effective in reducing child conduct problems by promoting social skills, reducing negative methods of discipline, and improving child management skills. These improvements have been long lasting and maintained for up to 4 years after intervention.

#### The Training Program:

The training is a 20 week video based program presented in small groups (8-10 people) to allow discussion and rehearsal of behavioural principles. The program is based on the theory that if parents can learn to deal with children's misbehaviour and to model positive and appropriate problem solving and discipline strategies, the children can develop social competence and reduce aggressive behaviour at home and at school.

The Parent Training will be facilitated by Dianne Lees (the researcher) and Chris McAlpine, Clinical Psychologist at Child and Adolescent Mental Health Services, (CAMHS) Tauranga Hospital. The training will be held in the Peter Hereford Centre, 14'h Ave. Tauranga, on Thursday mornings.

#### Audio Taping the Facilitator:

The facilitator will be taped so that the supervisor ( Dr Kevin Ronan) can monitor that the program is carried out appropriately for the purpose of this research. Audio taping is not for the purposes of

listening to the participants but to listen to the facilitator. The tapes will be destroyed after the research is completed,

**Participation:**

To be included in this project your child will be between 5 -10 years, be a client of CAMHHS and be diagnosed with ADHD. Your son/daughter will have no core organic difficulties (eg head injury), and no major psychiatric illness.

The research requires four parents to participate within a group of eight to ten parents. If there are more than four parents who volunteer, participants will be selected on a random basis (by chance determined by tossing a coin). All other parents can participate in the Parent Training Program as places are available.

You can withdraw from the research at any time without any effect on your continuing with the Parent Training Program.

**Research Data**

Pre treatment data on Child Behaviour and Family Functioning will be compared with continuous data collected during the training program and also with post treatment data. The researcher requires access to data collected in the diagnostic interview in order to compare changes that may occur over the treatment program.

**General Practitioner:**

Participants can decide if they want their General Practitioner to be informed of their involvement in the training program.

**Supervision:**

Dr. Kevin Ronan, Associated Professor and Coordinator of the Clinical Psychology Program, Massey University, will supervise this research. Dr Colin Watt, Child Psychiatrist, Tauranga hospital will provide oversight of the program at CAMHS,

**Time Involved:**

Participants in the research will be interviewed by Dianne Lees (the researcher) prior to the program. This will take about one hour. You will be required to observe your child's behaviour in the home on a weekly basis. The Parent Training Program is a two hour weekly session over 20 weeks. In addition there will be measures of child behaviour and family function collected prior to the Parent Training, during the training, immediately after the training, and again at three months after the training. This will take about an hour each time.

**Benefits of the Study:**

There are few identified risks to the participants. Parents will gain skills and strategies that will assist in the management and modification of difficult behaviour. The training is expected to reduce problems, and improve communication and positive discipline strategies in the home. Participants meet weekly with the researcher and clinical psychologist and have the opportunity to express any concerns. Any evidence of psychological distress will be referred through the appropriate channels at CAMHS. There is the potential for the research group to develop into a support group for the parents.

**Researchers:**

This research is carried out by Dianne Lees a Masters student from Massey University. If you require further information on this research project you can contact me via CAMHS on 579 8380. Alternatively you can contact my supervisor, Dr. Kevin Ronan on (06) 350-5799 ext 2069.

Thank you

Dianne Lees

## Appendix I: Consent Form

### Consent Form:

**Research Project:**

To investigate the effect that Parent Training has on the function of families with children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD).

I have read and I understand the information sheet dated 20th April 2001 for volunteers taking part in the research project designed to investigate the effect that Parent Training has on the function of families with children diagnosed with ADHD. I have had the opportunity to discuss this study. I am satisfied with the answers I have been given.

I understand that taking part in this project is voluntary (my choice) and that I may withdraw from the project at any time and this will in no way affect my continuing with the Parent Training Program.

I have had this project explained to me by Dianne Lees the principal researcher.

I understand that my participation in this project is confidential and that no material that could identify me will be used in any reports on this research project.

I have had time to consider whether to take part.

I know whom to contact if I have any questions about the research project.

I agree that the researcher can access results from the psychological tests used in the diagnostic interview. Yes No

I wish to receive a summary of the results of the study. Yes No

I consent to my General Practitioner being informed of my participation in the project. Yes No

I agree to have the facilitator audio taped during the sessions Yes No

I am aware that I can request the audio tape be turned off at any time during the session. Yes No

I agree to take part in this study under these conditions. Yes No

Signed .....

Full Names .....

Parent of .....

Researcher ..... Contact Phone .....

## Appendix J: *Participant' Evaluation*

### Incredible Years Participants Evaluation

*Facilitators: Dianne Lees*

*Chris McAlpine*

**I found the content of the course so far:**

Not helpful                  Neutral                  Helpful                  Very Helpful

**I found the hand outs:**

Not helpful                  Neutral                  Helpful                  Very Helpful

**The homework has been:**

Too much                  Neutral                  Helpful                  Very Helpful

**I have been able to read the chapter readings:**

None                  Some                  most                  All

**The facilitators teaching has been:**

Poor                  Neutral                  Helpful                  Very helpful

**The group discussion has been:**

Not helpful                  Neutral                  Helpful                  Very Helpful

**The videos have been:**

Not helpful                  Neutral                  Helpful                  Very Helpful

**The role- plays and opportunities to practice new skills have been:**

Not helpful                  Neutral                  Helpful                  Very Helpful

**Has your relationship with your son improved since beginning this course?**

Not at all                  A little                  Quite a lot                  A great deal

**Do you feel more confident in your parenting skills since beginning this course?**

Not at all                  A little                  Quite a lot                  A great deal

Further comments:

Name:

## **Appendix K: *Participants' Comments***

Evaluation comments from participants:

Participant A; "I have enjoyed the group therapy and knowing that I am not the only person with a problem child... Twenty weeks is not long enough... I have found the course wonderful especially the group therapy".

Participant B; "I liked learning about how my son is the way he is... The whole programme was very helpful... It has helped me to know other mothers who have the same problems".

Participant C; "This programme has given me a new lease on my family... It is the best thing since sliced bread... The anger management and communication skills were most helpful".

Participant D; "I liked the closeness of the group and how everyone got on well and there was great communication... I didn't feel left out or isolated ... Decision making skills was most useful... I will really miss this support".