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Traumatic Stress Reaction: Cultural Differences

A Thesis presented in partial fulfilment of the requirements for the degree of Master of Arts in Psychology at Massey University.

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ABSTRACT

Over the past forty years the domains of cross-cultural psychology and third world psychology have grown considerably. Both are now considered essential approaches for studying other cultures (Mio & Iwamasa, 1993; Pederson, 1993). Although the mental health literature on response to natural disasters has grown considerably in the past few years (Lystad, 1990) there has been limited empirical research on the interaction between culture and trauma and the role played by trauma in traumatic stress reactions (Chemtob, 1996). The object of this study was to explore the influence of cultural differences on disaster perception and traumatic stress. An exploratory study was undertaken in the Fiji Islands. This study examined traumatic stress reaction in three cultural groups: indigenous Fijians, Hindu Indians, and Muslim Indians. The study was conducted in two parts: the first, a qualitative section using open-ended questions. The questions concerned housing, support, socio-economic status, education, and overall expectations. Paton (1997) has identified some of these factors as increasing vulnerability, although not in a cultural context. The second: a quantitative section, involved the construction of a questionnaire (Appendix Eight), itself based on important issues identified by those interviewed in the first section. The purpose-built questionnaire (Expectation/Demand Questionnaire) was designed to assess both the expectations that would be placed upon people by their religious groups and the assistance they would receive from their respective religious organisations. This questionnaire was administered in conjunction with two commercial instruments designed to assess traumatic stress reaction. The results of the Expectation/Demand Questionnaire revealed a statistically significant difference between the three cultural groups in the amount of assistance they expect from their Churches, Mosques, and Temples, and the demands they expect these organisations to make of them. It was hypothesised that other factors may have contributed to the differences between the three groups, including quality of housing, location of housing, ownership of housing, socio-economic status, literacy, and locus of control. These vulnerability factors were used to construct a table (Discussion, 4.0) designed to highlight the risk levels of the three cultures.

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CONTENTS

CHAPTER ONE: LITERATURE REVIEW

1.0	INTRODUCTION	10
PART ONE: THEORETICAL FRAMEWORK		
2.0	CROSS-CULTURAL PSYCHOLOGY	11
2.1	THIRD WORLD PSYCHOLOGY	12
2.2	CROSS-CULTURAL PSYCHOLOGY IN THE THIRD WORLD	12
2.3	TRAUMATIC STRESS REACTION	12
2.4	FUTURE REQUIREMENTS FOR TRAUMATIC STRESS RESEARCH	13
PART TWO: THEORETICAL ISSUES		
3.0	INTRODUCTION	13
3.1	CURRENT STATE OF RESEARCH	14
3.2	PROBLEMS FACING THE FIELD	14
3.3	WHO SHOULD CONDUCT CROSS-CULTURAL RESEARCH	15
3.4	METHODS FOR SUCCESSFUL FUTURE RESEARCH	15
3.5	ETHICAL CONCERNS	16
PART THREE: CULTURAL DIFFERENCES WITHIN KEY VARIABLES		
4.0	HOUSING	16
4.1	HOUSING QUALITY	17
4.2	HOUSING LOCATION	18
4.3	PERCEIVED IMPORTANCE OF HOUSING	19
5.0	SUPPORT	20
5.1	SOCIAL SUPPORT	20
5.2	PERCEPTION OF SOCIAL SUPPORT	20
5.3	FAMILY SUPPORT	22
5.4	RELIGIOUS SUPPORT	23
6.0	SOCIOECONOMIC STATUS	24
6.1	POSSESSIONS	24
6.2	LITERACY	24
6.3	FATALISM	26
7.0	OVERALL EXPECTATIONS	26
7.1	GOVERNMENT POLICY	27

**PART FOUR:
METHODOLOGICAL APPROACH**

8.0	TRADITIONAL RESEARCH METHODS	27
8.1	INDIVIDUALISM VERSUS COLLECTIVISM	27
8.2	INDIVIDUAL VERSUS CULTURAL ASSESSMENT	28

**CHAPTER TWO:
METHODOLOGY**

1.0	INTRODUCTION	29
------------	---------------------	-----------

**PART ONE:
KEY VARIABLES**

2.0	OVERVIEW	29
2.1	RELIGION	30
2.2	HOUSING	31
2.3	PHYSICAL SITUATION	33
2.4	SOCIOECONOMIC STATUS	34
2.5	GENDER	35
2.6	AGE	35

**PART TWO:
DATA GATHERING METHODS**

3.0	INFORMATION GATHERING METHODOLOGY	36
3.1	INTERVIEW	36
3.2	QUESTIONNAIRE	36
4.0	STEP ONE: SEMI-STRUCTURED INTERVIEW	37
4.1	SUMMARY OF INTERVIEW DATA	37
4.2	STEP TWO: QUESTIONNAIRE	38
4.3	SUMMARY OF QUESTIONNAIRE DATA	38
5.0	GENERAL CONCLUSION	38

**CHAPTER THREE:
RESULTS SECTION**

1.0	INTRODUCTION	40
------------	---------------------	-----------

**PART ONE:
QUALITATIVE DATA**

2.0	SUPPORT	40
2.1	PERCEPTION OF SUPPORT	40
2.2	FAMILY SUPPORT	42
2.3	SOCIAL SUPPORT	42
2.4	RELIGIOUS SUPPORT	43
2.5	FINANCIAL AND MATERIAL SUPPORT	45
3.0	HOUSING	46
4.0	ANTICIPATION	46

**PART TWO:
QUANTITATIVE DATA**

5.0	STATISTICAL PROCEDURES	48
5.1	RESULTS	48

CHAPTER FOUR: DISCUSSION

**PART ONE:
SPECIFIC DIFFERENCES**

1.0	INTRODUCTION	50
2.0	SPECIFIC DIFFERENCES	50
2.1	SOCIAL SUPPORT	51
2.2	SOCIOECONOMIC FACTORS	52

**PART TWO:
VULNERABILITY FACTORS**

3.0	PHYSICAL CHARACTERISTICS	53
4.0	VULNERABILITY FACTORS	53
4.1	RELIGIOUS/CULTURAL GROUP	55
4.2	HOUSING	55
4.3	SOCIOECONOMIC STATUS	55
5.0	PREDICTIONS OF TRAUMATIC STRESS	56

**PART THREE:
ASSOCIATED ISSUES**

6.0	RESEARCHER	56
6.1	INSTRUMENTS	56
6.2	CULTURAL DEFINITIONS	57
6.3	INDIVIDUAL VERSUS COLLECTIVE ASSESSMENT	57
6.4	ACHIEVEMENTS OF THIS STUDY	58
6.5	LIMITATIONS OF THIS STUDY	58

6.6	RECOMMENDED IMPROVEMENTS	58
6.7	IMPLICATIONS FOR FURTHER RESEARCH	59
6.8	IMPLICATIONS FOR PRACTICAL APPLICATION	59

APPENDICES 60

APPENDIX ONE	INFORMATION SHEET (INTERVIEW)	61
APPENDIX TWO	"YOUR RIGHTS AS A PARTICIPANT" (INTERVIEW)	63
APPENDIX THREE	CONSENT FORM (INTERVIEW)	64
APPENDIX FOUR	SEMI-STRUCTURED INTERVIEW QUESTIONS (INTERVIEW)	65
APPENDIX FIVE	INFORMATION SHEET (QUESTIONNAIRE)	68
APPENDIX SIX	"YOUR RIGHTS AS A PARTICIPANT" (QUESTIONNAIRE)	69
APPENDIX SEVEN	CONSENT FORM (QUESTIONNAIRE)	70
APPENDIX EIGHT	QUESTION SHEET (QUESTIONNAIRE)	71
APPENDIX NINE	HSCL-21, SYMPTOM CHECKLIST	73
APPENDIX TEN	IMPACT OF EVENT SCALE	74

REFERENCES. 75

LIST OF FIGURES AND TABLES

Chapter Three

2.1 Perception of Social Support

Figure 1	Entitled to Support	41
Figure 2	Received More Support Than Expected	41
Figure 3	Received Less Support Than Expected	41
Figure 4	Support Met Needs	41

2.2 Family Support

Figure 5	Damage to Family Home or Injury to Family Member	42
Figure 6	Expect to Fare Well During Next Hurricane	42

2.3 Social Support

Figure 7	Social Support Inadequate	43
Figure 8	Social Support Not Required	43

2.4 Religious Support

Figure 9	Received Spiritual Support After Last Hurricane	44
Figure 10	Received Physical Assistance After Last Hurricane	44
Figure 11	Spiritual Support Was Inadequate	44
Figure 12	Physical Assistance Was Inadequate	44
Figure 13	Members Stick Together During Crisis	45
Figure 14	Anticipate Further Support	45

2.5 Financial and Material Support

Figure 15	Received Financial Support	45
Figure 16	Consider Financial Support Allocated Fairly	45
Figure 17	Reasons For Unequal Distribution: Racial	46
Figure 18	Reasons For Unequal Distribution: Personal Favouritism	46

3.0 Housing

Figure 19	Homes Damaged During Last Hurricane	46
-----------	-------------------------------------	----

4.0 Anticipation

Figure 20	Anticipate Community Support After Next Hurricane	47
Figure 21	Previous Support Adequate	47
Figure 22	Expect to Fare Well During Next Hurricane	47
Figure 23	Anticipate Community Support After Next Hurricane	47

5.1 Results

The Impact of Events Scale	48
The HSCL	48
The Expectation Scale	49
The Assistance Scale	49

Chapter Four

4.0 Vulnerability Factors

Figure 1	Vulnerability Factors	54
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Chapter One:

Literature Review

1.0 Introduction

The aim of this literature review is to provide the reader with a background to the subject of this thesis. To facilitate assimilation of this section a precise definition of the thesis topic is supplied at this stage. This thesis will examine the nature and effect of traumatic stress reactions exhibited by individuals within three cultural groups, after a natural disaster in the third world.

Although mental health literature on response to natural disasters has grown considerably in the past few years (Lystad, 1990) there has been limited empirical research on the interaction between culture and trauma, and the role played by culture in traumatic stress reactions (Chemtob, 1996). Chemtob (1996) asserts that it is essential to consider the cultural context within which traumatic stress reaction is exhibited. As most assessment instruments and methodologies reflect experience with western samples there is a need to undertake studies with non-western groups.

The natural disaster under study was hurricane Nigel, a force four hurricane that struck the Fiji Islands in March 1997. Three distinct cultural groups inhabit the west Fijian area of Lautoka, which was the location of this study. The three cultural groups, those of Christian Fijians, and Islamic and Hindu Indians, all experienced the force of the hurricane. Property, particularly housing and crops was extensively damaged, livestock lost and ten people killed.

It is hypothesised that while the hurricane affected everyone in the area there will be differences in the nature and effect of traumatic stress reactions exhibited by the victims. This thesis will examine the influence of cultural differences on disaster perception and traumatic stress.

Several differences between the three cultural groups will be examined. These differences will fall under four sub-headings, those of housing, support, socio-economic status, and overall expectations. Some of these aspects have been identified as increasing vulnerability (Paton, 1997), but not within a cultural context.

This study will examine the relationship between factors of housing, socio-economic status, social support, and overall expectations, and the nature and effect of traumatic stress reactions exhibited by the victims. The three cultures, due to their proximity and interaction, have a great deal in common.

The task here will be to examine the differences which exist between the three groups and attempt to explain the relationship between these factors and the divergent traumatic stress reactions.

The first stage of the study involved the construction of an integrated theoretical framework containing the approaches necessary to determine traumatic stress in a multicultural third world setting. Several factors are now acknowledged as being of paramount importance in the study of individual reaction to psychological phenomena. Approaches such as cross-cultural psychology and third world psychology are of demonstrable value in the conscientious and accurate depiction of individual reaction to traumatic events. Adopting an approach that fully considers cultural background, belief, values, and experience is at the forefront of consideration. Cross-cultural psychology incorporates these in order that cultural bias might be minimised and that accurate assessment of psychological reaction may be presented.

Part One:

Theoretical Framework

2.0 Cross-Cultural Psychology

The term "Cross-Cultural Psychology" appeared in the 1950s and came to mean both research conducted in two or more cultures and research conducted in a culture other than ones own (Jahoda, 1973). Primarily Black/African-American ethnic-minority researchers (Mio & Iwamasa, 1993) conducted early work in cross-cultural psychology. The bulk of this research focused upon issues regarding their status as a minority group within the United States. The basic tenet of cross-cultural psychology is that psychological approaches that disregard culture and culturally learned assumptions will be inaccurate in their assessment because they will impose their own culturally learned assumptions upon others, whether intentionally or unintentionally (Pederson, 1993). This is especially important in the study of traumatic stress. Disregarding cultural influence in the assessment of traumatic stress may cause harm to the population under study as well as providing inaccurate results.

Put into practice this means that great care will be needed to minimise cultural bias in the data gathering stage. This will necessitate interview and questionnaire questions to be of an unambiguous nature and for time to be taken to ensure that the questions are understood. The interviews will be semi-structured and use open-ended questions. This will facilitate the compilation of a qualitative database. Compiling qualitative information will provide a better view of the issues. In the data analysis stage cultural factors will be considered paramount and the context of the questions taken into account.

Cross-cultural psychology is now viewed by many as an essential element in understanding many different areas of psychology. An example of this includes the study of cross-cultural psychology in the area of counselling where it is felt that counsellors cannot provide satisfactory service without a

knowledge of other cultures (Mio & Iwamassa, 1993).

2.1 Third World Psychology

Cross-cultural psychology is seen as a fundamental component of third world psychology. It is hoped that multicultural researchers will produce new developments and theories within third world psychology and cross-cultural psychology (Moghaddam, 1987). The emphasis within indigenous third world psychology has been to study major social problems (Leung, 1989), and as such it is becoming more applied than its first and second world counterparts. An important aspect of third world psychology is that it must be readily applicable at a practical level (Moghaddam, 1987). This demand is prompting new developments in the field, for example, traditional methods such as questionnaires are inadequate in an environment where illiteracy is widespread. The present study will use locally developed instruments to examine traumatic stress in the three cultural groups in Fiji. The results of the study will be applicable to the local population.

2.2 Cross-Cultural Psychology in the Third World

Combining the approach of cross-cultural psychology with the concerns of third world psychology is necessary to undertake a psychological study in the Fijian Islands. The local culture, comprising Pacific Island and Indian communities, is sufficiently removed from traditional western norms that the utilisation of these theoretical approaches is necessitated.

An early example of cross-cultural psychology being used in the third world is that provided by Triandis (1971) who attempted to compile a syndrome of characteristics associated with economic development, modernisation, and industrialisation. Triandis was looking for characteristics that transcend cultural barriers and that are representative of humans everywhere, with the aim of mapping out a psychological agenda for third world nations to follow in order to achieve economic success. As noted by Jahoda (1973) this raised the important question of how cross-cultural psychology could best be used to help third world nations. Furthermore, it also highlighted the need to assess what third world nations want to achieve.

Incorporating the study of traumatic stress reaction into a framework of cross-cultural, third world psychology completes the theoretical framework for a study into culturally based differences in traumatic stress reaction in the Fijian Islands.

2.3 Traumatic Stress Reaction

Natural disasters or "cataclysmic phenomena" (Lazarus & Cohen, 1977) can cause long lasting stressful situations. Hurricanes in particular with the associated low-pressure system moving around can cause extended periods of tension. Kiser et al, (1993) reported that anticipation of a disaster is

sufficient to elicit a stress reaction and that an unpredictable event results in more stress than a predictable one. Kalat (1990) has stated that the effects of prolonged exposure to a stressor depend upon the nature of the stressor. In extreme cases, such as soldiers fighting in a war, severe traumatic stress reaction can result from continued exposure to stress (Pitman, R.K., Orr, S.P., Fogue, D.F., DeJong, J.B., Claiborn, N.M, 1987). However, reaction to stress almost certainly depends upon an individual's interpretation of the event (Lazarus, 1977).

The US Department of Health and Human Services (1979) has reported that evidence indicates that disasters do not cause severe long lasting psychological disturbances in victims. Disasters do however represent stressful life events and as such can create acute problems in living, emotional upset, and transient symptoms of psychological disturbance. Taylor et al, (1976) have identified three general levels of victim impact due to disasters: those of mental illness (severe psychopathologies), mental health problems, and problems in living.

As has been mentioned previously there are a number of factors (e.g. housing) in place that could result in members of the three cultural groups in the Fijian Islands interpreting the event of a hurricane differently.

2.4 Future Requirements for Traumatic Stress Research

Current research within the area of traumatic stress has revealed that victims benefit from both pre-disaster training and post-disaster debriefing and counselling. Therefore future victims of natural disasters may benefit from research into areas which deal with the containment of symptoms associated with traumatic stress. Among areas requiring more research are the role of the media and the measurement of secondary consequences to disaster exposure (Pijawka et al, 1988).

This study will attempt to further research done in the areas of traumatic stress, third world psychology, and cross-cultural psychology. It will deal with the levels of traumatic stress exhibited by individuals after a natural disaster, namely the seasonal hurricanes experienced in Fiji. It will then compare the nature and extent of the traumatic stress reactions across three cultural groups within the region.

Part Two: Theoretical Issues

3.0 Introduction

Part two of this literature review deals with theoretical issues such as current research trends in third world psychology and methods for successful future research. These are relevant to understanding a study of culturally based differences in traumatic stress reaction in a Fijian community.

3.1 Current State of Research

Widespread resentment on the behalf of ethnic minority researchers toward white majority researchers, reported in the early nineties (Mio & Iwamasa, 1993), has led to an increased emphasis being placed upon the training of ethnic minority researchers. There now exists a desire amongst many researchers and theorists to reciprocate the learning process (Mio & Iwamasa, 1993). This encourages the recruitment of ethnic minority researchers and promotes their development in order that the field of cross-cultural psychology may in turn benefit from their input.

A principal goal of cross-cultural psychology in recent times is to develop the ability to interpret the relationship between cultural differences and cultural processes (Leung, 1989). Indigenous third world cross-cultural psychology adheres to this doctrine and applies it in a wholly more practical manner. Examples of this are community development projects in South America (Marin, 1975 ; Varela, 1971), and agriculture developments in the third world (Gay, 1983). Debate within cross-cultural psychology as to who should undertake cross-cultural research still continues.

3.2 Problems Facing the Field

Debate continues concerning white researchers within cross-cultural psychology. A definition provided by Pederson (1993) on the problems facing white cross-cultural researchers states the problem as "one of achieving accuracy in our assessment of our selves and of others (pp 230)."

According to Moghaddam (1987) a major problem in psychology (particularly third world psychology and cross-cultural psychology) is United States domination of the field. Moghaddam states that the low number of articles authored by ethnic minority groups in the *Handbook of Cross-Cultural Psychology* is demonstrative of US domination of the field.

In relation to this study United States domination of the field of psychology is most apparent when using assessment instruments, most of which have been developed using United States population samples. While these instruments can be used on other populations their limitations in these settings must be recognised. Fijian/Fijian Indian society is relatively open to the western world, with baseball caps and Chicago Bulls tee-shirts commonplace, yet traditional cultural values and extended families offer sufficient reason to limit the validity attached to any of these instruments.

3.3 Who Should Conduct Cross-Cultural Research

Criticism of white researchers conducting research in ethnic minority areas has been made over the past few years. Parham (1990) feels that white

researchers need to (a) confront their own discomfort about working with minority populations, and (b) work with minority researchers whom minorities themselves have identified as being spokespersons for multiracial concerns, in order to be successful cross-cultural researchers.

Parham (1993), recapping on earlier publications, said that in order to compensate for misdiagnoses, mislabelling, and stereotyping etc, white researchers must explore their own world view and assess its suitability for understanding culturally different populations. Parham believes white researchers must confront biases in their sampling techniques and expand research designs to include qualitative analyses. Parham also went on to advocate white researchers studying different conceptual systems in order to gain an understanding of other cultures.

Atkinson (1993) has acknowledged some of the biases involved in cross-cultural research. However, he strongly advocates the contribution white researchers make, as all cultures have a part to play and a contribution to make to the field of cross-cultural psychology. That is to say, in studying a diverse array of cultures, it is only fitting that diverse groups undertake the research. The practicalities of applying this theory, along with the needs detailed in section 3.2 will be explained in the methodology section.

3.4 Methods for Successful Future Research

According to Hui and Triandis (1983) one of the main problems in cross-cultural research is equivalence of measurement. Hui and Triandis maintain that the best way to maximise equivalence of measurement is not by using any one method, but by using several methods, for example factor analysis, multidimensional scaling, and cross-cultural validation by nomological network. In this study interviews were conducted. From these interviews a questionnaire was constructed based upon local perception of stressful or traumatic events. These two methods of assessment were used in conjunction with two western traumatic stress scales, providing a multifaceted measure of traumatic stress.

As pointed out by Parham (1990, 1993) research must be free of racial bias in order to be of value to the scientific community and to be fair upon the cultural groups that the research is designed to generalise to. In order to achieve this researchers must engage in self-evaluation and self-assessment. Taken a step further an independent method of evaluation and assessment of racial bias may also be of use to the cross-cultural community.

An objective within cross-cultural psychology, as reported by Parham (1993), is that researchers become more knowledgeable about, respectful of, and sensitive to, the wide array of issues involved in the field of multicultural research.

3.5 Ethical Concerns

It is, of course, necessary to ensure all that can be done is done to protect individuals, families, and communities who participate in psychological research. There are added considerations when conducting research in cultures other than ones own, and yet more in third world societies where the population does not have the luxury of resources to safeguard their interests.

Cross-cultural research conducted in the third world must ensure confidentiality and the right to privacy for participants, consider special problems in applied settings, and acknowledge possible conflicts between ethical and professional values (Kimmel, 1988). It must also address problems in participant recruitment and retention, look at the reliability and validity of assessment instruments, note issues of racism, classism, and sexism, report abuse and neglect, and aspire to resolve conflict of personal and research ethics (Demi & Warren, 1995). Cross-cultural research needs to acknowledge and consider the relationship between research and issues of social or political power, recognise the capacity of research to encroach upon peoples lives, and the potential implications researching sensitive topics may have for the researcher. Furthermore, relations between researcher and researched must be scrutinised and must comply with ethical criteria in the disclosure, dissemination, and publication of research, especially when involving sensitive topics (Lee, 1993). As for the methodology of this study, the implications of these ethical issues include the wording of interview questions, material covered by the questionnaire, and the choice of professional instruments used.

In his article on the evaluation of psychological research Rantanen (1995) calls for more stringent methods of evaluation by publicly controlled authorities and private financiers. Rantanen suggests that in order to establish competent, objective, and ethically acceptable evaluations, (1) the theory of evaluation should be developed further; (2) the appropriate paradigm, criteria, and indicators for the performance and quality of research should be produced; and (3) the need for appropriate references and standards should be met. In order to meet the requirements of modern psychological research, evaluation was based upon measures suggested in interviews by members of the local population. These measures were regulated by the cultural and religious beliefs of the community and designed with the well-being of the community in mind.

Part Three

Cultural Differences Within Key Variables

4.0 Housing

Part three of this literature review deals with cultural differences within the key variables of housing, support, socio-economic status, and overall expectations.

4.1 Housing Quality

Housing quality is closely related to socio-economic status, and as with socio-economic status, differences between the three cultural groups were evident. Housing quality in the upper level (the higher socio-economic level of housing) is dominated numerically by the Indian community with approximately 90% of high quality housing belonging to members of either the Muslim or Hindu communities.

By Fijian standards a house of quality construction can be defined as one of reinforced concrete block with a security compound fence. These account for approximately 15% of the total number of houses in Lautoka City.

High quality housing may provide added security for the Indian community. Housing constructed to a high quality reduces the chances of damage during a hurricane, lessens the risk of loss of personal possessions, and reduces the chances of both forced and voluntary rehousing. These factors may combine to reduce the impact of the natural disaster upon the Indian communities.

Perhaps off setting advantages of quality constructed housing are the possible financial costs incurred should the house be seriously damaged. These well-constructed houses are much stronger and therefore much more expensive. However, even the most sturdily reinforced houses are unlikely to withstand the full force of a strong hurricane passing directly over them. Concern regarding the repair of an expensive dwelling may exacerbate any traumatic stress reaction, reversing the positive effect of increased security.

Housing of low quality construction (lower socio-economic level housing), while inhabited by Fijian and Indian alike, is dominated by a larger percentage of Fijians. Approximately 65% of this type of housing is home to people of the indigenous Fijian culture. By Fijian standards housing of poor quality may be classified as being constructed of timber and corrugated iron, many consisting of only two rooms. They are frequently damaged during hurricanes with the roofs being the first to go. This type of housing accounts for approximately 50% of housing in Lautoka City.

Housing quality is expected to be an important factor within this study as it will affect the rates of relocation. Relocation is widely acknowledged as producing symptoms of psychological stress (Riad & Norris, 1996; Najarian, 1996 ; Robinson et al, 1994 ; Ajdukovic & Ajdukovic, 1993; Lystad, 1990; Archer & Hawes, 1988). Within this study it is predicted that culturally based differences in housing quality, most notably caused by socio-economic status, education, traditional building materials, and culturally based work ethics, will lead to differences in relocation rates across the three cultural groups. It is anticipated that differing rates of relocation across the three cultural groups will result in a varying traumatic stress reaction.

Cheaper housing may also result in the loss of a family's possessions

during a hurricane. Many people who live in cheaper housing, especially those who live in areas prone to flooding or landslides, are evacuated to safe areas. There is of course no room in these areas for a family's personal possessions, so many inhabitants of budget accommodation are faced with the prospect of losing their household contents. Loss of personal belongings may also lead to increased levels of stress (Gerrity, 1994). Thus differences in observed traumatic stress reaction may be anticipated as a result of loss of personal possessions due to poor housing quality.

Low quality housing may serve to exacerbate an already stressful situation during a hurricane. With the benefit of previous experience people dwelling in housing of poor quality will know that this type of housing is often damaged during hurricanes, destroying personal possessions, and necessitating rehousing. Goodman et al, (1991) claim that the loss of a family home can produce symptoms of psychological trauma. Pickens et al, (1995), Gerrity (1994), Ajdukovic and Ajdukovic (1993), and Murphy (1986), all report traumatic stress type reactions from those who have lost their homes. The loss of personal possessions may impede recovery after a traumatic event (Bolin & Klenow, 1988), while rehousing has been linked with high levels of traumatic stress (Riad & Norris, 1996; Najarian, 1996 ; Robinson et al, 1994 ; Ajdukovic & Ajdukovic, 1993; Lystad, 1990; Archer & Hawes, 1988). Ajdukovic and Ajdukovic (1993) claim that children exhibit a far higher incidence of stress reactions if their mothers have trouble coping with the stress of displacement, while Pickens et al (1995) report that nearly half the people who lost their homes in a hurricane could be classified as depressed.

This study predicts that the higher representation of Fijians in housing of a lower quality may bring about a stronger traumatic stress reaction.

4.2 Housing Location

Differences in housing location are expected to lead to differences in traumatic stress reaction due to the specific nature of hurricane damage wrought in different geographical areas. Typically, low lying areas are prone to flooding and landslides, together with high winds, while higher hilly areas face only high winds. The higher areas in the hilly city of Lautoka are the more affluent and clearly favoured by Indian people (approximately seventy percent), while the lower lying areas are home to a predominantly Fijian creed. Thus the low lying areas of Lautoka are likely to suffer flooding, landslides, and high winds, subjecting the Fijian people to personal injury, housing damage, damage to personal belongings, and the stress of relocation. The predominantly Indian residents of the higher areas will have a far lower chance of relocation, damage to personal property, or damage to housing. Put another way, the higher the location of the housing the lower the risk of damage and relocation; and vice versa.

In a study by Riad and Norris (1996) relocation was shown to be related to higher levels of stress, crowding, isolation, and social disruption. While the hurricanes affect everyone, the flood-prone areas occupied

predominantly by the native Fijians are more likely to result in evacuation, which could affect the nature intensity and duration of any traumatic stress reaction.

Relocates who are moved into poor conditions experience more stress than do those living permanently in similar conditions and those who have not been relocated (Riad & Norris, 1996). Ajdukovic and Ajdukovic (1993) identified a considerable range of stress related reactions in families accommodated in collective shelter, as did Robinson et al (1994) studying elderly people who had been moved to alternative accommodation during a disaster. Lystad (1990) has recorded substantial levels of short-term traumatic stress reactions in families who had been relocated during a natural disaster. Archer and Hawes (1988) found that intrusive thoughts, anger, loss of self, and loss of identity, were all present in over one quarter of people who had been involuntarily rehoused. Najarian et al, (1996) reported high rates of traumatic stress reactions including depression, Post Traumatic Stress Disorder, and behavioural difficulties in children who were relocated during a natural disaster and urged that victims be kept in their original environment unless the destruction is extensive.

4.3 Perceived Importance of Housing

The value a family attaches to their home may also have a great impact upon the nature and extent of traumatic stress reaction. While the research that suggests this is western in origin (Lassarre, 1986; Howell, 1985; O'Bryant & Wolf, 1983) one may assume that the same would be true of homeowners in the western influenced communities of Fiji. Housing in this study falls into two basic categories: privately owned and rented.

A privately owned home, whether of reinforced concrete block or corrugated iron, represents a considerable investment on behalf of the people who have built it. Being responsible for maintenance, improvement, and renovation, private homeowners attach great value to their home's continued security. Damage to private homes represents great loss and a cause of considerable stress to the families that inhabit them regardless of their respective financial value.

Howell (1985) discusses the importance of home ownership for middle aged and older people and their attachment to their houses. According to Howell, home ownership provides a source of meaning in elder's lives. Lassarre (1986) found that renters and owners differed significantly in the satisfaction they got from their dwelling and its residential environment, while O'Bryant and Wolf (1983) found that attachment to private homes was the best predictor in housing satisfaction.

Unlike New Zealand, where state rental housing is provided to those without the means to secure accommodation elsewhere, state rental housing in Fiji is given almost exclusively to native Fijians. The result of this is a far higher percentage of Fijians in rental housing than is the case for other cultural

groups. This higher utilisation of rental housing may serve to lower the value that Fijian people place upon their houses over all, and consequently alter the nature and extent of traumatic stress reactions exhibited.

Thus it may be implied, albeit from western results, that home ownership may lead to increased levels of traumatic stress in Indians during a hurricane. Conversely, rental housing may serve to lower psychological stress affecting Fijian occupants, as would be anticipated in western society.

5.0 Support

5.1 Social Support

One of the key considerations in assessing the interaction between support and traumatic stress reaction in different cultures is their perception of support. Weisner (1989) has raised the question of what constitutes support, noting that while some behaviour is perceived and experienced as supportive in all cultures, other behaviour requires culturally specific interpretation.

5.2 Perception of social support

Of prime consideration in addressing social support is the relevant cultural perception of what constitutes support. Harrison et al (1995) has reported that some cultures perceived social support as being supplied by a variety of persons from their social network, while other cultural groups perceived parents and best friends as providing most of their social support. Jou and Fukada (1996) surveyed Japanese and Chinese students attending a Japanese university and found that Chinese students considered their professors to be an important source of social support while Japanese students did not.

Neubauer et al (1994) claim that cultural groups determine the nature of ones social network integration, and that this in turn determines an individuals opinion of and utilisation of social support. Park and Dimigen (1994) revealed that one cultural group of new mothers indicated that they valued their social support more than another group valued theirs, even though they received less support. This highlights cultural differences in perception of, and importance attached to, social support.

This raises the possibility that cultures with a close-knit social network (extended families perhaps) value extra social support less as they have a very close, supportive social network anyway. Those of a loose-knit (or westernised) social network may value social support more highly as it provides an obvious increase in the amount of support received.

Further support for cultural differences in the way people perceive support comes from studies revealing the idea of reciprocity. Akiyama et al (1987) reported that elderly individuals in the USA provided and received support in a reciprocal manner. That is, they provided as much of the same type

of social support as they received, and vice versa. Japanese people did not adhere to this system of reciprocity however, repaying support with any type of resource, regardless of the type of support received. A study by Antonucci et al, (1990) revealed that reports of non-reciprocal relationships were correlated with lower educational levels and functional limitations. Furthermore, reciprocal relationships are most positively related to life satisfaction.

Another factor that affects the utilisation of social support and is influenced by culture is that of locus of control. Liang and Bogat (1994) have found that culture moderates the influence of locus of control, and that this locus of control in turn determines how people view and utilise social support. Soloman and Smith (1994) examined the possible effect of locus of control upon the manner in which people view social support.

This raises the interesting possibility of cultural/religious influence upon locus of control. That is, certain religious beliefs, or the fervency of religious beliefs, may impact upon people's perception of their ability to influence their fate. The devoutly Christian Fijian people may entertain the Christian notion that reward or punishment for their behaviour may only come after death, and thus classify hurricanes as no more than a weather pattern. Muslims believe in a more hands-on divine intervention, floods and hurricanes being punishment for a sinful community. Hurricanes and the resultant flooding and landslides may be seen as an act of god, displeased at the actions of the community. The Hindu ideal of karma may similarly indicate that natural disasters are a karma type balance from a previous life. A natural disaster such as a hurricane may take on different roles for different cultures in Fijian society, the implications of which may be observable in any traumatic stress reaction.

The role of social support in mediating the effect of traumatic stress has not been without its critics however and several studies have cast the positive role of social support in doubt. A study by Murphy (1988) dealt with victims of a natural disaster in the USA and found that they relied upon self-reliant behaviour rather than help seeking or support-seeking behaviour. Another study of natural disaster by Cook and Bickman (1990) revealed that perceived availability of social support was not related to distress after the disaster.

Following on from the criticism of the generally accepted moderating effect of social support upon traumatic stress reaction are several studies that claim that the reason for intense traumatic stress reaction after a natural disaster is due to a breakdown in social support. Kaniasty and Norris (1993) found that stress reaction following a natural disaster would affect depression directly and indirectly through deterioration of social support. In examining the paradoxical effect of social support and traumatic stress reaction Kaniasty and Norris (1995) propose a deterioration model of social support. This deterioration model assumes that the changes in social support following a natural disaster contribute to the detrimental effects of stress rather than counteract them.

Applying the deterioration model to this study leads to an anticipation

of differences in traumatic stress reaction across the three cultural groups. As existing social support is certain to be disturbed during a hurricane one can expect levels of traumatic stress to increase. However, as mentioned earlier cultural groups have different perceptions of social support. If a group's social network is neighbourhood based, they may experience fewer disturbances to their social network than a group whose network covers a larger area. As both Fijian and Fijian Indian cultures support extended family networks, and these family groups generally live in close proximity, the disturbance of other social networks may be more noticeable. As noted by Walls and Zarit (1991), Dewey (1988), Pargament (1986), and Eng et al, (1985) churches play an important role in providing social support for their members, thus a hurricane may disturb the religious aspect of a social network. The Christian Church in Fiji is very participant orientated, as is the Islamic Caliphate, with church and Mosque meetings and visits from the local ministers commonplace. Hinduism on the other hand is a more personal religion with worship often taking place in the home at a family shrine, or individually with private visits to the temple. It may then be anticipated that a hurricane in Fiji would disturb the social networks of Christian Fijians and Muslim Indians more than Hindu Indians, resulting in a higher level of psychological stress for the former two groups than for the latter.

However, it is generally accepted that social support, via a social network, contributes to personal homeostasis, that is, a balance or ideal at which individuals feel comfortable. In Fiji this may take the form of Fijians being able to attend church meetings with their families, Muslims being able to attend prayer meetings at their local mosque, and Hindu's being able to visit a temple and freely associate with family and business members. Tavecchio and Ijzendoorn (1987) examined the social network and how it assists personal attachment. They studied attachment over a wide social network, finding evidence of the important role played by such networks in facilitating attachment in its members.

5.3 Family Support

Family support can be viewed as an essential aspect of support in general. For many, the family is the centre of ones social support network with large extended families providing a plethora of complex and important social structures. Dunbar and Spoors (1995) reported that kin make up a higher percentage of peoples social networks than could occur by chance. DeRossier and Kupersmidt (1991) found a difference in children's social networks. Family members played a more important role than best friends did in some cultures, while they did not in others. Dunbar and Spoors (1995) reported that large families contain fewer non-kin members in their social networks. Bolin and Klenow (1988) found that family size is positively correlated with psychosocial recovery after a natural disaster. Both Fijian and Fijian Indian cultures support extended families, the members generally living in the same area. Thus it may be anticipated that families play an important social support and social network role in Fiji.

Many cultures have extended families and it seems likely that they

draw support from such structures (Dunbar & Spoors, 1995; DeRossier & Kupersmidt, 1991; Bolin & Klenow, 1988). Many large families contain an inner clique of social support (Dunbar & Spoors, 1995). However, this family support may result in its members placing a lower value on other types of support, particularly outside organisational support. In so far as this study is concerned the utilisation of family support from extended families may lessen the anticipated effect of disturbance to social networks as discussed in the previous section. Furthermore, with extended families in Fiji generally living in the same area, the presence of a core social network, in the form of an extended family, may well reduce the overall traumatic stress reaction across all three cultural groups.

5.4 Religious Support

Religious support provides a support network for a great many people. Walls and Zarit (1991) have reported that perceptions of support from a church are associated with well-being. Dewey (1988) has suggested that a congregation can be a source of emotional and spiritual support. Pargament (1986) has argued that psychologists need to pay greater attention to the ways that religious institutions help members in their efforts to gain social support and solutions to problems in their lives. And Eng et al (1985) have noted the instrumental roles churches have played in providing social support for their members.

Religion plays a prominent role in the lives of all three cultures within Fiji. Religion provides a structural basis on a day-to-day basis, determining which schools children attend, how people deal with major events, such as weddings, births, and funerals, and influences the clothes people wear and where they live.

The major difference between the three religious groups in this study was of a financial nature and concerned the ability of the respective religious organisations to provide material support to their members. The Christian Church, with its worldwide network and strong financial base, is able to provide a substantial amount of support to its members. In day-to-day living this may consist of school uniforms or food parcels. During a disaster, such as a hurricane in this study, the material support the church provided was substantial, from food to building materials, even rebuilding houses for its members.

This study will examine the role played by religious establishments in Fiji after a natural disaster. It is probable that all three religious organisations (Christianity, Islam, and Hinduism) provide their members with a degree of support, however there may be differences in the type of support, which could affect the nature, and extent of any exhibited traumatic stress reaction. In particular, the amount of social support drawn from religious groups may prove influential. As mentioned the Christian church and Islamic faith are very participant orientated with members taking part in public gatherings and group prayers, and interacting with fellow members on a regular basis. Hinduism, while also having temple meetings in the larger temples, is often of a more personal nature, many of the smaller temples consisting of just one small statue

where individuals go to worship in their own time. Thus, the Christian and Muslim religions may provide more social support, contributing to a lower level of traumatic stress reaction.

6.0 Socio-economic Status

After a natural disaster the traumatic stress reaction may be moderated by the influence of socio-economic status. Socio-economic status directly affects a number of factors that influence the traumatic stress reaction; among these are material possessions, literacy and fatalism. As there is considerable divergence among the three cultural groups in Fiji in socio-economic status, this factor may influence the final stress reaction exhibited.

6.1 Possessions

This is perhaps the simplest aspect of socio-economic status and its relationship to the traumatic stress reaction. It is possible that people with more material possessions find it easier to cope with stress. Bolin and Klenow (1988) suggest the importance of material factors in emotional recovery after studying the relationship between psychosocial recovery and socio-economic status.

The possession of material goods may also lead to a stronger attachment between an individual and their home. This may in turn lead to a greater sense of security thereby making it easier to manage stress. Of course the security provided by the possession of material goods may be offset by the risk of their loss during a disaster and the substantial cost involved in replacing them. This would be particularly relevant for people of a lower socio-economic status.

6.2 Literacy

The literacy rates for Fiji are only supplied for the population as a whole (87% overall, 90% male; 84% female). However, the three cultural groups in this study do differ in socio-economic status with which literacy rates are correlated.

The vast majority of literacy research is based upon middle class European or American children (Wagner, 1993). In Fiji as in other third world nations, the situation is slightly different. Here the children's parents are often unschooled, their language is different to that used in the classroom, and their first instruction often involves rote religious instruction (Wagner, 1993). Literacy, for various reasons, may have considerable effect upon the nature and effect of traumatic stress reaction among the three cultural groups. As the three cultural groups differ in literacy rates this may help account for any difference in exhibited stress reaction.

Smith and Dixon (1995) conducted a study that revealed children as early as 48 months of age showed differing literacy levels according to socio-economic status. According to Smith and Dixon children of a lower socio-

economic status are at a distinct disadvantage in understanding written language as early as pre-school. Chaney (1994) examined socio-economic differences in literacy, finding that the amount of family literacy involvement, and the subject's race, are related to language development. Nash and Harker (1992) reported that families of a lower socio-economic status could not compete with families of a higher socio-economic status in the area of literacy due to the imbalance in resources.

Literacy may have a direct impact upon people's ability to prepare for a natural disaster. Much of the information regarding natural disasters is in printed form. This may affect knowledge regarding both physical preparation (e.g. food storage, spare clothing, radio, batteries, etc), and psychological preparation (e.g. how long hurricane will last, what conditions will be like, nature of damage, etc). Support service access and entitlement, as well as the acquisition of emergency services and the ability to lodge complaints regarding services are likely to be affected by rates of literacy.

With regard to disaster response and recovery, literacy may have a more pronounced effect upon the latter than the former. As housing in Fiji is of a high density and extended families and neighbours generally stay in close contact, warning of, and how to prepare for, a hurricane is information readily at hand. That is, when a hurricane is headed for Fiji, or a low-pressure system (which can develop into a hurricane) is building in the area, individuals need only ask or observe their neighbours to learn the correct preparation procedure. After the hurricane, individual response is dictated by individual need. If a family need building materials, clothing, or medical assistance they must approach the appropriate authority. Similarly, if the family has insurance, or is eligible for finance from a trust or disaster relief service it is up to them to instigate proceedings. As rates of literacy are related to socio-economic status, and the business owning Indians dominate the upper levels of the socio-economic strata within Fiji, it may be anticipated that the native Fijians, with lower overall levels of literacy, will be at a disadvantage in terms of post disaster recovery. In this respect, rates of literacy may have a bearing upon success with relief services and thereby affect the level and nature of traumatic stress reaction.

6.3 Fatalism

The way people perceive future events have a direct bearing on how they affect those individuals. Fatalism can be seen to be a factor of "locus of control." Liang and Bogat (1994) found that culture moderates locus of control. Cultural factors can then be seen to influence the fatalistic approach of individuals. Expectations regarding the hurricanes in Fiji may affect the nature and extent of traumatic stress reaction they induce. As negative expectations, or fatalism, are more pronounced in people of lower socio-economic status, and between cultural groups, then it is possible that fatalism will affect the exhibited stress reaction differently in the three cultures in this study.

A study by Ross et al (1983) revealed that subjects from lower socio-

economic groups were more fatalistic than those of higher socio-economic groups. The study went on to show that fatalism increased psychological distress. To investigate the relationship between socio-economic status and psychological distress Turner and Noh (1983) found fatalism to be an important variable. Tobin and Ollenburger (1996) found that propensity to interpret a disaster negatively, or fatalism, was an important predictor for high levels of post disaster stress.

Moran (1990) found differing levels of fatalism in a study involving Americans and Irish subjects, while Wade (1996) reported a significant difference in fatalism between two cultures within the same country (black and white Americans). Fatalism was shown to have a direct effect upon exhibited behaviour in a study by Lewis et al (1989). Thus, fatalism as a factor of culture and socio-economic status may influence the nature of traumatic stress reaction exhibited by people in Fiji. The higher rates of Fijians in the lower socio-economic levels may indicate a higher level of fatalism, and thereby higher levels of traumatic stress reaction. However, this may be off set by the Muslim and Hindu religious beliefs discussed earlier (5.2), where many Muslim and Hindu Indians believe that hurricanes are the result of sin or wrongs committed by the community. These beliefs, viewed as a locus of control, may off set any difference between Indian and Fijian regarding fatalism as a factor of socio-economic status.

7.0 Overall Expectations

The nature and extent of a traumatic stress reaction after an intermittently recurring natural disaster depends largely upon people's previous experience with this type of disaster. If people have had bad experiences with things like evacuation of housing, religious support or government aid, then the nature and level of traumatic stress before, during and after the next natural disaster will increase accordingly.

Kiser et al, (1993) discussed the traumatic stress reaction that occurred in a population after exposure to the prediction of a disaster. During hurricane season in the tropics, many hurricanes (sometimes over a dozen) form in the greater area yet few ever reach any given population. Far more low-pressure warnings (potential hurricanes forming) are issued every season. As the population must keep a keen vigil against hurricanes these threats are all duly noted, their proximity monitored, and there immediate danger assessed. The effect of repeated exposure to the prediction of disaster may have an effect upon the nature and intensity of any traumatic stress reaction noted in the population under study.

7.1 Government Policy

A military coup in 1987 brought about the end of cultural equality in Fiji. This coup ousted the democratically elected and culturally mixed government in favour of a native Fijian body. The nature of the native Fijian Governments dealings with its Indian population has been the subject of official

New Zealand protest. In 1990 Sir Paul Reeves prepared a report on the Fijian situation (The Reeves Report, 1990) condemning the current military regime and lack of democracy.

It is anticipated that the three cultural groups in this study are prepared for and expect vastly different treatment from the government and government agencies that control foreign aid and emergency support services. This could produce traumatic stress reactions of varying nature and extent.

Part Four

Methodological Approach

8.0 Traditional Research Methods

Traditionally in cross-cultural psychology, as in psychology in general, great emphasis was placed upon quantitative methods of research. Long held in high esteem these methods of copious subjects and questionnaires are now being de-emphasised in favour of a combined approach of quantitative and qualitative research methods. This study will use a combination of qualitative and quantitative research methods. The questions will attempt to draw out the necessary information while adhering to the aforementioned ethical considerations. Several methods of viewing indigenous and third world cultures have been abandoned due to their recently highlighted inappropriateness.

8.1 Individualism versus Collectivism

Traditional views on individualism and collectivism have been the basis of many studies, especially those of other cultures. Schwartz (1990) states that these traditional individualism-collectivism views are only suitable for a secondary overview. That is, when used in a primary function they obscure the detail and diversity of individual action. Schwartz gives three reasons why the individualism-collectivism view is no longer suitable. 1. Sometimes an action serves both individual and culture. 2. Some collectivist values do not directly serve the majority in control e.g. conservation laws. 3. There is growing evidence that people can operate on different scales at the same time, that individualism-collectivism may not be on the same continuum but rather two separate, independent scales.

Therefore, the tenets of individualism and collectivism, while seemingly well suited to a study involving a collective style Fijian culture and an Indian culture that has fully embraced the intensely competitive free market, will not be used as a theoretical foundation or primary instrument of analysis. Rather, these ideas of individualism and collectivism will be used sparingly where deemed appropriate.

8.2 Individual versus Cultural Assessment

According to Leung (1989) cross-cultural psychology needs to explore the relationship between cultural differences and cultural processes. That is to say, we need to be able to explain cultural differences not just by saying culture is the cause of the difference but rather conduct an individual level analysis, or "subsystem validation" and a culture level analysis, or "ecological level analysis."

This study will attempt to shed light upon the individual level differences of the three cultural groups involved, and the cultural level differences that may precipitate observable differences in behaviour.

Chapter Two: Methodology

1.0 Introduction

With a dearth of studies published world wide, and no known studies of the type undertaken in the Fiji Islands, an *exploratory study* was undertaken in Fiji to assess the role of cultural differences as determinants of the nature and magnitude of traumatic stress reaction. While this study is of a limited scope, it is hoped that it will pave the way for further more detailed studies of this type in the Pacific Islands and the third world.

Notable is the paucity of published data in this area. This is significant from two standpoints, first in terms of understanding reactions to a stressor such as a hurricane, and second with respect to teasing out differences within populations, particularly populations that are not homogeneous. This second point is of particular relevance, as the population of Fiji is comprised of three cultures that are distinct in religion, schooling, socio-economic status, and education.

Three cultural groups were studied and the impact of hurricane Nigel (1997) was assessed. The three cultural groups, located on the Fijian Island of Viti Levu, were indigenous Fijians who follow the Christian religion, Indians who belong to Islam, and Indians who practice Hinduism. The following is a summary of the data obtained in interviews and questionnaires with a sample of twenty members from each of the three groups.

Part One: Key Variables

2.0 Overview

This study will describe and evaluate traumatic stress reactivity in a population exposed to a hurricane. In examining the nature and intensity or magnitude of the traumatic stress reaction attention will focus upon several key variables, those of religion, housing type, physical location, socio-economic status, support, gender, and age. Studies have revealed that these variables play an important role in the nature and extent of traumatic stress reaction exhibited by individuals (Riad & Norris, 1996; Gerrity, 1994; Goodman et al, 1991; Walls & Zarit, 1991; Weisner, 1989; Bolin & Klenlow, 1988; Eng et al, 1985;).

The variables will be analysed in several ways enabling a comprehensive account of this particular phenomenon to be detailed. The analysis will consist of two stages, the first, an interview (Appendix Four)

examining several key variables (Qualitative), the second, a questionnaire (Appendix Eight) concerning specific aspects of key variables (Quantitative). The first stage involved conducting a series of interviews using open-ended questions with twenty members of each of the three cultural groups. The religious and cultural groups interviewed were clustered in certain areas of Lautoka City, this grouping will be discussed in detail in section 2.2 of this chapter. The questions were designed to extract enough general information about the key variables to enable a more specific questionnaire to be constructed (Appendix Eight).

The second stage involved using the information gained during the interviews to construct a questionnaire. The questionnaire focused upon expected religious support, both spiritual and physical, and anticipated religious demands, both physical and financial. A full list of questions used in the questionnaire can be found in appendix eight.

The questionnaire also incorporated two general stress scales, the "HSCL-21" (Appendix Nine), a stress symptom checklist, and the "Impact of Events Scale" (Appendix Ten), a life events stress scale. These two scales were intended to supplement the religious support and demand questions (Appendix Eight) and to reveal any divergence between cultural groups in the nature and intensity of any traumatic stress reaction.

The key variables used in this study have been reported in research (as above) to have a bearing upon the nature and intensity of traumatic stress reaction. They are also factors that affect the daily lives of the inhabitants of Lautoka.

2.1 Religion

Many studies (Walls & Zarit, 1991; Dewey, 1988; Pargament, 1986; Eng et al, 1985) have shown religion to be an important determinant of an individual's ability to deal with traumatic life events. The key variable of religion was chosen to analyse in detail using the questionnaire constructed from the initial interviews. As will be revealed, the three religious denominations have both differences and similarities in their religious practices and beliefs.

An aspect shared by Christianity, Islam, and Hinduism alike in Fiji is an extremely high adherence rate. The various religions are actively practised by at least ninety five percent of the population. Practising these religions does not stop with merely claiming membership to a certain group and attending the occasional meeting as it so often does in New Zealand. Activities include regular attendance at the appropriate meeting house, regular and often public display of faith (e.g. burning of incense in a dedication to a god on the front lawn of a residential home), frequent visitation from religious officials (for prayers or the collection of donations), maintenance duties at the local Church, Temple or Mosque, formal instruction in the ways of the faith for both children and adults, attending denominational schools for children, informal attendance at group get-togethers at members houses, and attending the many weddings and

funerals.

The nature and intensity of any traumatic stress reaction exhibited by an individual may be affected by the demands placed upon them by their respective religion. The relationship between religious demands and the impact of a traumatic event is potentially profound and worthy of speculation at this point. A religious denomination which, through overseas support (e.g. the Christian Church), is able to provide considerable material support (e.g. rebuilding houses, providing building materials, or providing shelter in large, well-constructed and equipped churches) may have an entirely different impact upon individuals or families than a religious organisation which, due to financial hardship, is forced to lobby its members for further financial, material, and manual assistance. That is, even more assistance than its members normally provide, at a time when they are even less able to cope with such demands.

It should be noted that there is considerable overlap between the variables. Socio-economic status for example can be seen to have a strong relationship with the type and location of housing, as well as other factors such as overcrowding in family homes. There is also considerable variation of effect among individual variables. An example of this is the multifaceted effect of religious support. Religion can either help the individual, in the form of assistance, or exacerbate the situation by placing further demands upon individuals who are already heavily burdened with the demands of a disaster.

Several differences were noted in the religious demands placed upon subjects from the various religious groups. One of those was funeral ceremonies: the three religious denominations have distinct funeral ceremonies that place different demands upon the individuals of the respective families. An example of this is the Moslem tradition whereby male siblings of a departed family member are required to shave their heads and perform spirit-warding music every night for a period of thirty days.

2.2 Housing

Another variable affecting the population under study is that of housing. The housing situations of those in the Lautoka area differ greatly in aspects such as type of construction, location and ownership.

Differences in housing construction are evident, with those of a lower socio-economic status living in houses constructed of corrugated iron, while a higher income affords the construction or purchase of virtually "hurricane proof" reinforced concrete block dwellings. Needless to say, the heavily constructed housing fares considerably better under the force of a hurricane. While the lower socio-economic level (with regard to housing) contains all three groups, the upper level is predominantly of Indian lineage.

It may be worthy of note that historically the indigenous Fijians lived in housing of even lighter construction. The traditional "bure" was commonplace until only twenty years ago and is still in use in the outer islands.

While these residences were at the mercy of the weather even more so than modern houses, they did not represent such a loss when they were destroyed, were replaced far more easily, cheaply and quickly, and their components caused far less injuries when blown at hurricane force around residential areas. Some of these advantages may apply to the lightly constructed housing in use at present. That is to say, the security of living in a sturdily constructed dwelling may be off set by the enormity of repair should it be badly damaged.

The location of housing is also of interest. As the city is built on hilly areas, traversed by small rivers and streams, the low lying areas are prone to mudslides and flooding during hurricanes, while the high areas are subject to strong winds. The three groups were represented in all of these settings although a higher representation of Indians (approximately seventy percent) were noted in the higher more exclusive areas, while the native Fijians were equally over-represented in the lower lying areas.

Ownership of housing may also play a role in the amount of stress incurred during a hurricane. The Fiji National Housing Authority (State Housing) provides a moderate amount of housing in urban areas (approximately the same level as New Zealand) although they are often of inferior design and built on cheaply acquired land - areas which are prone to flooding and mud slides. Therefore, people of lower socio-economic status (those in state housing) may exhibit different levels of traumatic stress reaction during a disaster such as a hurricane. However, off setting this is the likelihood of lower stress at the thought of losing a rented house, as opposed to one that the person owns.

Many of the lower socio-economic group are not in state housing but rather own their own houses. This does not elevate them to a higher socio-economic level as the houses are of meagre construction to say the least, often little more than tin sheds. People of the lower socio-economic group who own their own houses are sure to experience stress regarding the apparent flimsiness of their dwellings and the cost and effort of any repair. The more affluent homeowners are able to construct strong buildings although as mentioned earlier the cost of repair may be a cause of stress.

Despite these apparent differences there are also similarities within the variable of housing. Due to the sparse selection of building materials the vast majority of houses in the area are of similar construction. That is, the higher quality housing is constructed similarly, as is the housing of the less privileged. The quality of housing construction may affect the intensity of the hurricane impact. That is, their socio-economic status, and therefore the quality of their housing may directly affect the level of traumatic stress reaction exhibited by subjects within the sample population.

Housing position may also affect the nature and intensity of any traumatic stress reaction. Housing located upon higher ground is more susceptible to strong winds and so takes on special concerns of its own. This "high ground" housing is often the living place of people of upper socio-

economic status, and is therefore often of superior construction. Housing located in the lower areas has unique concerns also, these areas are prone to both mudslides and flooding and are often of inferior design.

The variables of housing and socio-economic status can be seen to be closely related. The positioning of residential housing, both private and rented, may, through the unique dangers that threaten them both, produce traumatic stress reactions of a differing nature and intensity.

2.3 Physical Situation

The groups' physical situations were of a similar nature with extended families comprising approximately ninety percent of the households. Approximately eighty percent of the households were overcrowded by New Zealand standards (although not by Indian or Fijian standards) with many containing three generations. The concentration of large family groups into neighbourhoods was common amongst all cultural groups; one street of approximately 60 houses was dominated numerically by only two families.

The practical implications of these factors are worthy of consideration. Physical factors such as overcrowding play a considerable role in the intensity and impact of any natural disaster (Riad & Norris, 1996; Ajdukovic & Ajdukovic, 1993), and therefore could be expected to have a bearing upon the nature of any traumatic stress reaction reported in this study. A close-knit community and family may also provide important support networks (Dunbar & Spoor, 1995; DeRossier & Kupersmidt, 1991; Bolin & Klenow, 1988).

As mentioned earlier the location of cultural groups within the areas studied differed somewhat. As is common in suburban developments throughout the world the high ground "with a view" is also sought after in Fiji. This has led to an over representation (of approximately seventy- percent) of Indians on the hilly areas and of indigenous Fijians (approximately eighty percent) in the low-lying areas. This difference in housing location, while no doubt influenced by social factors, can also be seen as a factor of socio-economic status.

The location of people's housing may subject one group to more widespread damage than another group depending upon the exact nature of the disaster. Depending upon the strength and type of hurricane, and the part of the hurricane that comes into contact with the population, a varied effect may result. The hurricane may come in the form of high winds, or high winds and heavy rain. The heavy rain will be more noticeable in areas prone to flooding or landslides, that is, areas inhabited by a majority of people of lower socio-economic status. High winds will cause destruction everywhere but will be especially dangerous on the higher, hilly areas, those occupied by a majority of people of higher socio-economic status. This variable closely interacts with socio-economic status as the positioning of housing, and therefore the type of disaster threat, is strongly affected by the relative wealth of the family.

As support often comes from neighbours and the community, potential support may be unequal if one particular area is hit disproportionately hard. That is, if a hurricane delivers heavy rain as well as high winds many of the people in the area prone to flooding will be busy looking after themselves and the number of people available to lend support will decline. The nature and intensity of any traumatic stress reaction may be influenced by the amount of support available, this may be a factor of the location of housing, and itself affected by the specific nature of the disaster. It is to be understood then that the positioning of housing (as a factor of socio-economic status) may influence the traumatic stress reaction. Furthermore, the threat of hurricane winds may cause a different type of stress reaction than would the threat of possible mudslides or flooding.

The level of traumatic stress experienced by an individual or family may be linked to their security within the social setting. Families, or even cultural groups, who are in a minority in the area may respond differently to a disaster than to a group who is in the majority. This may be due to anticipated levels of community support, that is, a minority group may not feel they will receive as much close support as a group who perceives itself as being in the majority. Majority cultural groups may also have more family members in the immediate area, adding to perceived security in their social setting and further affecting the nature and intensity of any traumatic stress reaction. As religious organisations and buildings are usually community based the dominant cultural group may also have superior access to religious support and services, this access may be superior due to the services being near at hand and numerous.

2.4 Socio-economic Status

The Socio-economic Status of the two groups differs notably overall although both groups are represented at the extremes. Figures provided by the Government Department of Census Statistics show that indigenous Fijians are very highly represented in areas of labouring (particularly in rural settings) while Indians are as highly represented in areas such as retailing. Indians are also more highly represented in areas of production and manufacturing. These differences in employment, in turn lead to socio-economic differences that are evidenced in such other areas as housing construction and ownership.

Socio-economic status is a far-reaching variable in the study of traumatic stress in that it affects many other aspects of day-to-day life. For example, the socio-economic status of an individual or family may determine where they live, who they live with (as in numbers in the house, and place as a minority or majority in the area), the type of house they live in, whether they can afford to repair the house, whether they have insurance for the house, whether they can meet the needs/requests of relations and/or neighbours for assistance, and whether they can meet the requests of their Church/Temple/Mosque for financial assistance.

2.5 Gender

As there are major differences in the demands placed upon men and women in Fijian/Indian society the amount of traumatic stress could conceivably depend upon the gender of the individual. An important aspect of this variable is childcare. As Fijian and Indian societies are very traditional by western standards the lions share of the responsibility for childcare rests with the women. Providing enough food for young children as well as adequate shelter during demanding weather conditions requires considerable effort. This may lead to differences in the nature and intensity of traumatic stress reaction between men and women. It would be expected that any difference in observed traumatic stress reaction between men and women would interact with other factors such as anticipated cultural religious differences and differences due to socio-economic status, such as housing type and location. Furthermore, any increase in traumatic stress in women due to the demands of childcare may be off set by demands faced by men, such as financial support of the family.

Nolan and Hoeksema (1990), revealing that women suffer disproportionately from depression relative to men have documented the relationship between gender and depression. While this research was undertaken in western cultures, it may, like other universal phenomena, apply in Indian and Fijian cultures also.

2.6 Age

The vital statistics of the groups were also similar, the age of occupants ranging from the very young to the very old. Young children are a prominent feature of the cultural groups with each household often containing several pre-schoolers. Grandparents and retired family members were also commonplace in the sampled households, providing an insight into the supportive and sincere nature of the extended family structure, as no pension scheme is available in Fiji.

The age of the individuals may also prove to be an important variable. As the elderly in Fiji rely upon their families for support, the heightened level of support required during a hurricane (with extra food, building materials, and labour in demand) may cause feelings of helplessness and overburdening on behalf of the elderly. Concern, overwork, and demanding circumstances may combine to affect the nature of the traumatic stress reaction exhibited by the homeowners.

Part Two:

Data Gathering Methods

3.0 Information Gathering Methodology

The information gathering process occurred in two stages. The first of these involved conducting interviews (Appendix Four) with a sample of sixty people: twenty from each of the three cultural groups. The second stage involved the administration of a questionnaire (Appendix Eight) to approximately one hundred people: thirty from each of the three cultural groups.

3.1 Interview

The first phase of conducting the interviews involved the selection of appropriate questions. Acquiring the relevant data required a comprehensive list of questions to be compiled based upon a theory designed to elicit replies of a specific nature. The nature of the questions was centred on reactions to the seasonal hurricanes at an individual family, neighbourhood, social, cultural, and religious level.

The second phase involved the selection of an appropriate and representative sample population. The study was conducted on the hurricane belt down the west coast of the island Viti Levu in Fiji. The setting was the town of Lautoka, a garment-manufacturing town that had been hit by most of the major hurricanes in previous years. The areas of Rifle Range and Topline were chosen to conduct the research as they provided a good selection of religious, occupational, and racial variation.

The sample population consisted of a broad selection of Fijian and Indian men and women of all three religious backgrounds. The levels of education and literacy differed, although it was generally of a low/medium standard. The situation of the respondents differed widely: from women involved in childcare and household duties, to professionals with busy work commitments.

The interviews were conducted in the interviewee's private homes after agreeing to participate in the study. Before beginning, they were provided with an information sheet (Appendix One) and had their rights as participants (Appendix Two) explained to them. The interview (Appendix Four) took twenty to thirty minutes on average to complete. Participants were selected at random on a door-to-door basis.

3.2 Questionnaire

Using the information gathered during the interviews a questionnaire was constructed. The questionnaire was designed to elicit different responses anticipated from the three-religious/cultural groups. These differences were expected to be most noticeable in the areas of anticipated demands/expectations

by their respective Church, Mosque or Temple concerning post hurricane damage assessment and repair, and to a lesser extent in the pre-hurricane anticipation of these demands/expectations.

Before the respondents completed the questionnaire they were provided with an information sheet (Appendix Five) and had their rights as participants (Appendix Six) explained to them. The questions used in the questionnaire are provided in Appendix Eight. As Fiji is a third world nation and does not receive full exposure to western society, care was taken to ensure that all participants understood the nature of the questions. Fiji has 87% literacy so questionnaires were used in this study.

A door-to-door method of selection entailing interviewing all the local residents who were home (approximately 90%) was used for the administration of the questionnaire. It was administered to approximately one hundred people with equal numbers coming from the three cultural/religious groups. The questionnaire took an average of fifteen minutes to complete. The sample population that completed the questionnaire was representative of the population at large. Respondents ranged in age from sixteen to seventy two, included an equal proportion of men and women, contained elements of both high, middle, and low socio-economic status, and an equal mixture of races and cultural/religious groups.

4.0 Step One: Semi-Structured Interview

A total of thirty-four questions in three sections were used in the semi-structured interview (stage one). For a full list of questions used in the interview see Appendix Four. The data gathered in the interviews revealed several relevant factors. A summary of the main points can be seen below.

4.1 Summary of Semi-Structured Interview Data

Members of the Christian church generally expect their church to render assistance. There was a strong belief that the church would "get them back on their feet" no matter how severe the damage. Reports of the last hurricane include stories of the church building new houses for members whose homes were destroyed. The church often supplies members with food and provisions over and above standard government aid. There is strong belief (not unfounded) that relief money is no obstacle for the church and that a high level of competent support can be expected.

Members of Islamic Mosques and Hindu Temples do not expect any such assistance. They do expect their respective religious centres to require and request assistance from its members. The assistance required takes the form of manual labour (particularly of trades persons), food supplies (for the Mosque staff and Temple committees as well as the poorer of their members), building provisions (for the Mosques, Temples and their poorer members), and financial aid.

Members of all the religious/cultural groups consider that they receive

adequate support. Members of those groups who do not receive much assistance maintain that the assistance they receive is adequate and that their organisation does "all it can." All religious groups provide varying degrees of spiritual and social support. Many members of the three groups consider that the assistance they receive is superior to that of the other religions.

Muslims and Hindus maintain that their organisations provide good/adequate support. They acknowledge that the Christians receive good financial support from their church, but maintain that they receive good care overall. The idea that the Mosque/Temple does "all it can" was a common theme.

4.2 Step Two: Questionnaire

A fifty one-question questionnaire concentrating on the variables of support and religion was constructed from the information gathered during the interview stage. This questionnaire (Appendix Eight) was administered to thirty people from each of the three cultural groups.

4.3 Summary of Questionnaire Data

Three instruments were used in the questionnaire, the *Impact of Events Scale*, the *HSCL 21*, and the *Demand/Assistance Scale*. The latter consisted of two sections, the "Demand Scale" gauging anticipated demands to be made by the Church, Mosque, or Temple; and the "Assistance Scale" gauging anticipated assistance to be received from the Church, Mosque or Temple. The Impact of Events Scale and the HSCL 21 are both measures of stressful events.

The questionnaire data revealed a moderate positive correlation between the *Impact of Events Scale* and the *HSCL 21*. That is, they were measuring close to the same thing. No difference was noted between the cultures on these two instruments.

The Demand/Assistance Scale revealed a statistically significant (0.05) difference between the three cultures in the assistance they expected from their Church, Mosque, or Temple, and the level of assistance that their Churches, Temples, and Mosques would expect from them. That is, Christian Fijians expected significantly higher levels of assistance from their Church than Muslims did from their Mosque, or Hindus from their Temple. Furthermore, Hindus and Muslims both anticipated, to a significant level, that their respective religious organisations would place higher demands upon them after a hurricane than did Christian Fijians.

5.0 General Conclusion

The post disaster interaction within the cultural/religious groups can be classified as either "demand" or "assistance." That is to say, the members of the groups are either expectant of comprehensive assistance/support from their organisation after a disaster, or anticipate various demands being placed upon

them by their organisation after a disaster.

The Christian Church can be classified as providing an "assistance" environment. With the availability of foreign aid (from overseas Christian Churches) the Christian organisations of Fiji are able to provide good support on all levels, including reconstruction of housing, relocation, financial aid (limited), and household food and supplies. Members of the churches do not have any demands placed upon them apart from attending church and their usual church duties.

Due to limited resources Muslim Mosques and Hindu Temples come under the "demand" category of post disaster interaction. That is, the members of these organisations are expected to contribute toward the repair and continuation of their Mosques and Temples, as well as providing support and assistance to their poorer fellow members.

It is anticipated that the data from this research may indicate higher levels of post disaster related stress in the "demand" group than in the "assistance" group. Furthermore, these differing levels of stress may be attributable to the post disaster interaction between the administrators of the respective organisations and their members, dependent upon the capabilities of the organisation.

Chapter Three:

Results Section

1.0 Introduction

The results reported in this study have been divided into two sections: those of qualitative data and quantitative data. The former has been broken down into several key variables and those variables in turn examined according to their relationship with the three cultural groups under study.

The qualitative variables fall under the headings of support, anticipation, and housing, and were assessed using a semi-structured interview. The similarities and differences in the way the three cultural groups reported events pertaining to these variables will be revealed, as will the implication of these relationships.

Part One: Qualitative Data

Similarities and Differences Within...

2.0 Support

The first variable surveyed was that of support. The support variable covers a wide range of roles including perception of support, family support, social support, religious support, and financial and material support.

2.1 Perception of Social Support

The way people perceive social support was viewed as an important measure. A number of questions designed to assess this aspect of social support were included in the semi-structured interview.

The three cultural groups differed in a number of areas within this variable. One of the most divergent was the question of "entitlement to support." 30% of Hindus (representing six out of twenty individuals interviewed) indicated feeling entitled to support after a hurricane while only 6% of Muslims and 0% of Fijian Christians similarly felt that support was one of their intrinsic rights. Following this, 50% of Fijians reported that they received more support than they expected while only 10% of Hindu and 6% of Muslims reported such. 10% of Hindus, 6% of Fijians and 0% of Muslims reported that they did not expect any support at all after a hurricane.

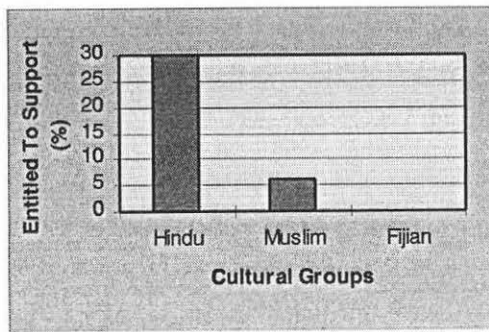


Figure 1

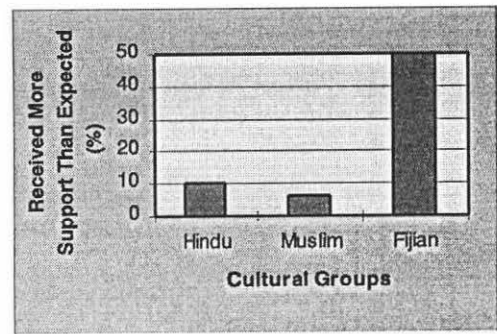


Figure 2

In a similar vein, 60% of Hindus reported that the support they received was less than they expected and that they should have received more, while only 33% of Fijians and 44% of Muslims felt that way. 72% of Fijians and 75% of Muslims reported that the support they received was adequate for their needs, 45% of Hindus perceived the level of support they received as being adequate.

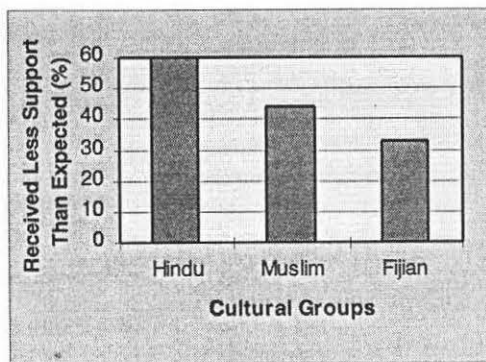


Figure 3

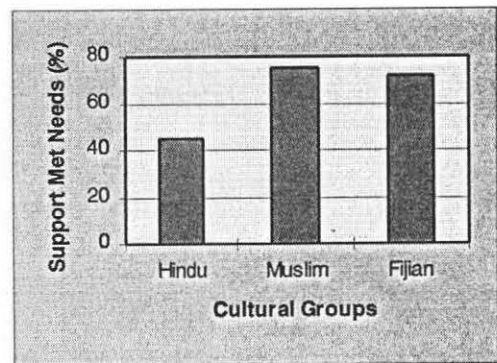


Figure 4

Another notable difference between the three cultural groups concerned expected support from their respective Temples, Churches, and Mosques. 15% of Hindus and 19% of Muslims reported that "they help the Temple/Mosque, not the other way around." No Fijian Christians reported this.

The way respondents perceive their Church, Temple or Mosques position on the hurricanes was for the most part of a similar nature. 15% of Hindus, 5% of Fijians, and 6% of Muslims surveyed reported that their Temples, Churches, or Mosques teach them the practicalities of preparing for a hurricane. 15% of Hindus, 22% of Fijians, and 19% of Muslims reported that their respective Temples, Churches, and Mosques provide religious lessons on the nature and cause of hurricanes. 55% of Hindus, 61% of Fijians, and 56% of Muslims reported that their Temples, Churches, or Mosques had no opinion or position regarding the any divine influence over the hurricanes.

56% of Fijians, 55% of Hindus, and 50% of Muslims reported that their beliefs regarding the hurricanes were consistent with others in their

community. Conversely, 20% of Hindus, 11% of Fijians, and 6% of Muslims reported that "other people have other beliefs of their own," regarding the hurricanes.

2.2 Family Support

Support received from families was also examined. Questions ranged from damage to the family home and injury of family members to difficulty coping with the disaster.

63% of Muslims, 56% of Fijians, and 55% of Hindus reported either damage to the family home or injury to a family member in previous hurricanes. 50% of Fijians, 44% of Muslims, and 40% of Hindus reported difficulty coping with previous hurricanes. 50% of Fijians, 44% of Muslims, and 30% of Hindus reported coping adequately with previous hurricanes.

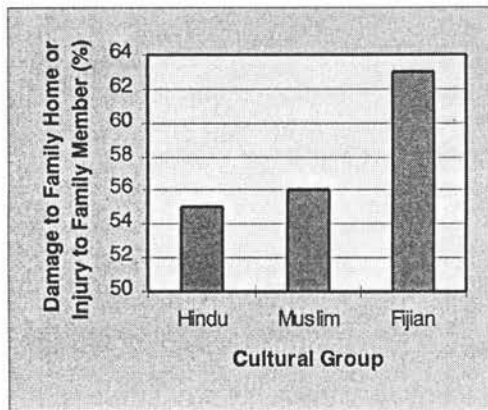


Figure 5

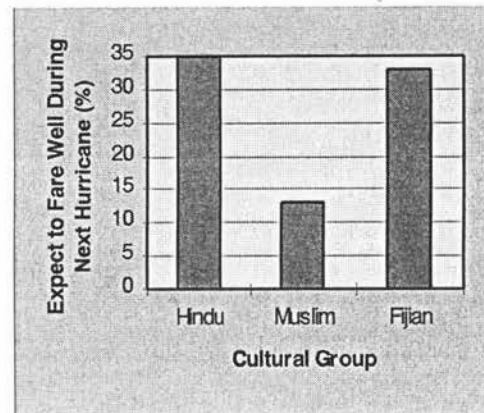


Figure 6

63% of Muslims, 56% of Fijians, and 55% of Hindus reported that their families would be better prepared for the next hurricane. 35% of Hindus and 33% of Fijians were of the opinion that they would fare well during the next hurricane, while only 13% of Muslims expected a favourable outcome.

6% of Fijians and Muslims, and 5% of Hindus expect to fare badly during the next hurricane. 19% of Muslims and 17% of Fijians were unsure what to expect during the next hurricane, only 5% of Hindus were similarly unsure as to what to expect.

2.3 Social Support

Support of a purely social nature was also gauged with questions regarding the nature and level of support received from neighbours and the community.

45% of Hindus, 39% of Fijians, and 31% of Muslims reported either that the social support they received was inadequate, or that they did not receive

any social support at all. 25% of Hindus, 25% of Muslims, and 11% of Fijians reported that they did not require social support of any description.

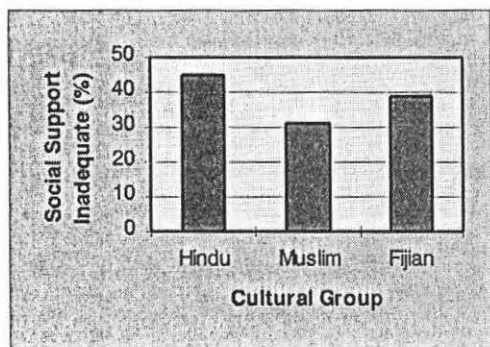


Figure 7

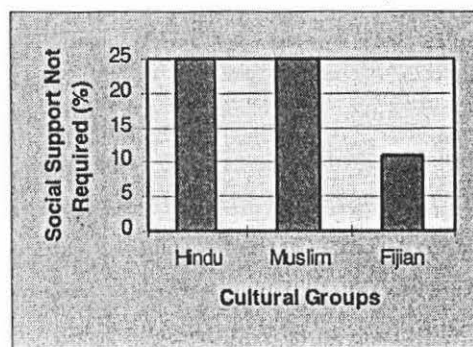


Figure 8

Of the social support which was received 44% of Fijians, 38% of Muslims, and 30% of Hindus felt that it was of an adequate nature and provided at least a minor assistance. Neighbours and members of the community provided the bulk of support. 33% of Fijians, 31% of Muslims, and 15% of Hindus reported receiving support of one type or another from their neighbours and immediate community.

75% of Hindus, 72% of Fijians, and 63% of Muslims reported that they expect support from their communities after the next hurricane, while 31% of Muslims, 22% of Fijians, and 10% of Hindus reported that they expect to receive support from their neighbours. 16% of Fijians and 13% of Muslims reported that they are not expecting any help after the next hurricane, no Hindus expressed this view.

2.4 Religious Support

The amount of religious support received by the three cultural groups was assessed with several questions: the physical and spiritual support received, adequacy of the support received, and expectation of further support.

83% of Fijians and 63% of Muslims reported that they received spiritual support after the last hurricane, only 25% of Hindus reported receiving spiritual support. 67% of Fijians, 38% of Muslims, and 30% of Hindus reported physical assistance from the various Churches, Temples, and Mosques.

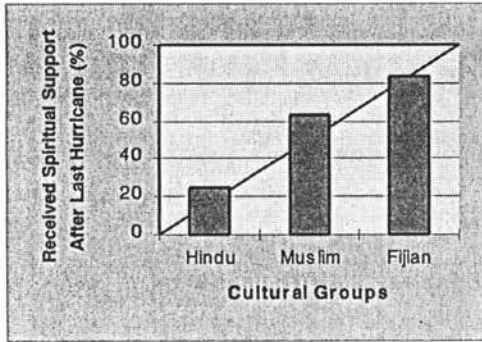


Figure 9

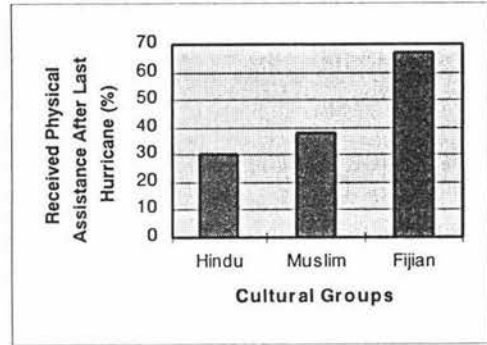


Figure 10

Differences were noted in the satisfaction with religious support reported by the three cultural groups. 11% of Fijians surveyed reported that the spiritual assistance they received was inadequate, and 17% of the Fijian group reported that the physical support received from their church was inadequate for their needs. The numbers were higher in the two Indian groups with 25% of Muslims reporting that both spiritual and physical aspects were inadequate, and 45% of Hindus reporting that the spiritual and physical support they received was insufficient.

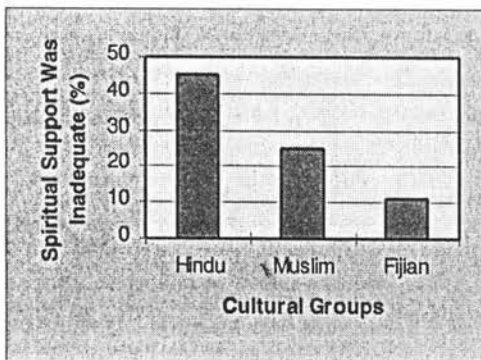


Figure 11

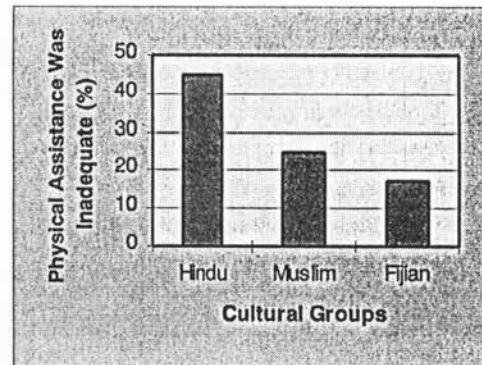


Figure 12

The three cultural groups answered similarly on questions of religious solidarity, with 89% of Fijians, 75% of Hindus, and 63% of Muslims stating both that members of their religion stick together during times of crisis, such as a hurricane, and that they find their respective religious beliefs helpful during such crises.

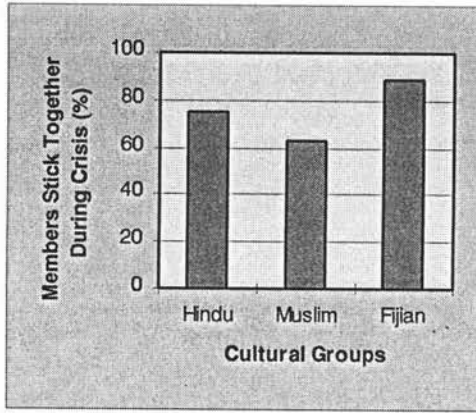


Figure 13

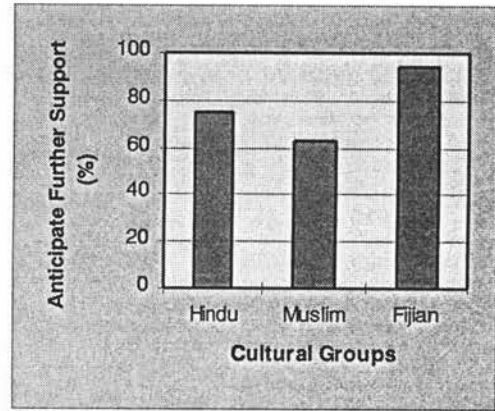


Figure 14

The anticipation of further religious support was similarly high with 94% of Fijians, 75% of Hindus, and 63% of Muslims expecting further support from their Churches, Temples, and Mosques.

2.5 Financial and Material Support

Several differences appeared in the way the three cultural groups viewed financial and material support. Evidence of financial support was similarly low with 17% of Fijians, 10% of Hindus, and 0% of Muslims reporting some form of financial support from the Government, the Church, or private financiers.

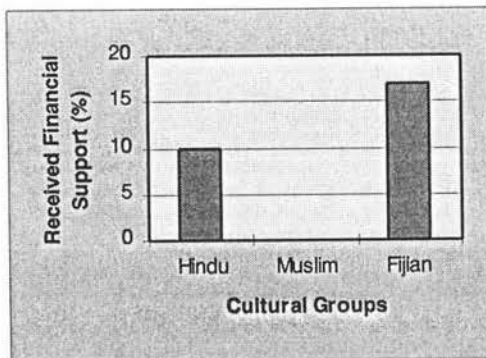


Figure 15

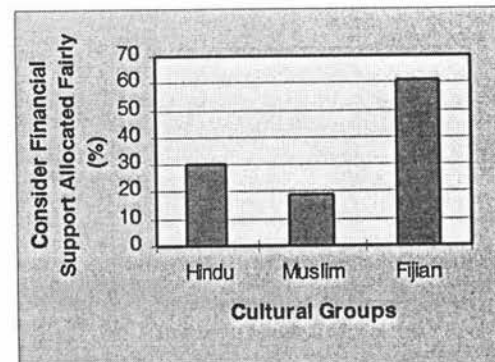


Figure 16

The major differences between the three cultural groups took the form of perceived inequality in the distribution of financial and material support, and the reasons for this inequality. 61% of Fijians felt that materials and financial assistance was allocated equally and fairly, while only 30% of Hindus and 19% of Muslims agreed with this. 22% of Fijians expressed concern over visible inequality in the distribution of financial and material provisions, compared to 31% of Muslims and 40% of Hindus.

Commenting on the reasons for the perceived inequality 25% of Muslims and 20% of Hindus cited bias against Indians in the allocation and distribution of provisions. No Fijians reported such a bias. Of those Fijians who mentioned any inequality, the largest group (17%) reported that it was due to personal favouritism on behalf of staff responsible for distribution. No Muslims or Hindus cited this as a possible cause.

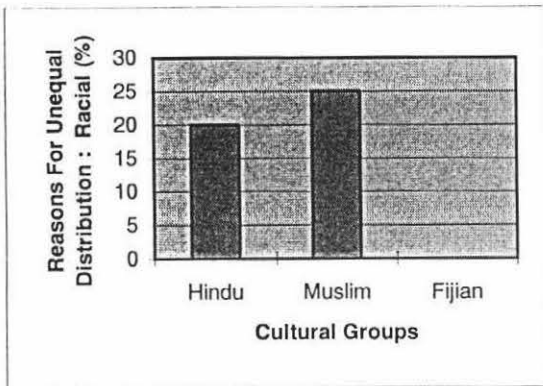


Figure 17

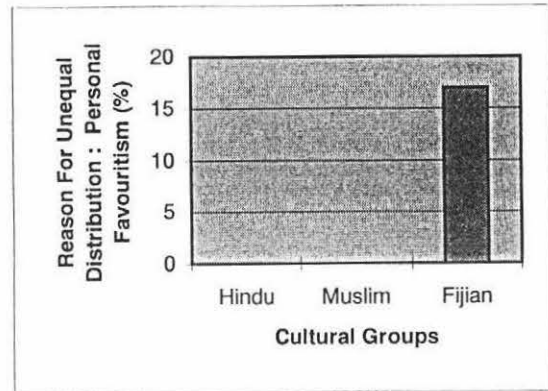


Figure 18

3.0 Housing

The second variable assessed was housing, and whether respondents' homes had been damaged during the last hurricane. Results revealed that 50% of Fijians, 40% of Hindus, and 50% of Muslims suffered damage to their family homes during the last hurricane.

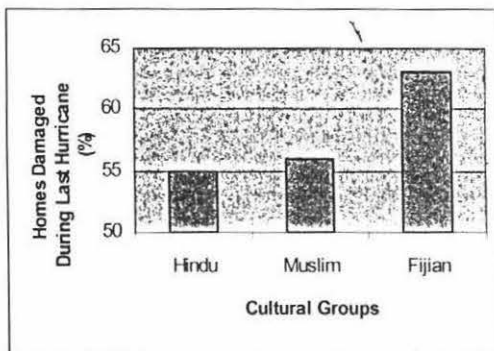


Figure 19

4.0 Anticipation

The third variable assessed was anticipation of the nature of further hurricanes and the experience this has been based upon. 44% of Fijians, 50% of Muslims, and 45% of Hindus reported receiving adequate help during and after the last hurricane. While the instances of financial help were low (17% of Fijians, 10% of Hindus, and 0% of Muslims), and opinions regarding equity of assistance varied (60% of Fijians, 35% of Hindus, and 19% of Muslims), there

was general approval of the overall level of support: with 83% of Fijians, 50% of Muslims, and 40% of Hindus reporting the support they received as adequate.

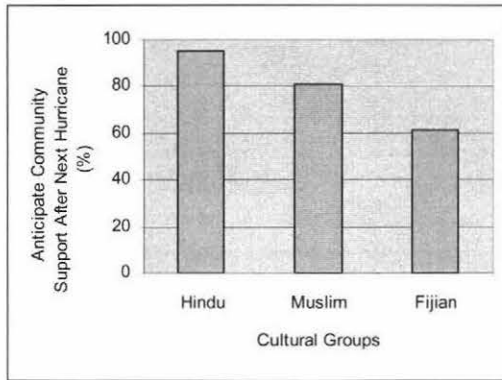


Figure 20

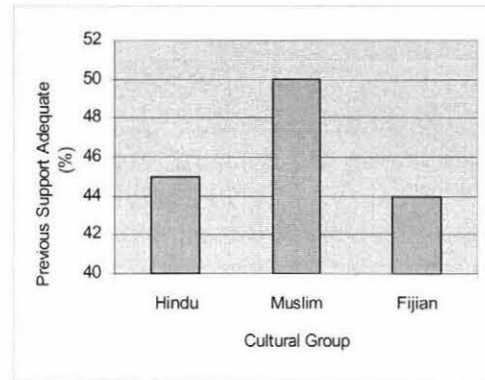


Figure 21

Bearing in mind the moderate to high levels of support received after the last hurricane, the anticipation of good support from religious groups and communities is not unrealistic. 94% of Fijians, 75% of Hindus, 63% of Muslims reported expecting support from their respective religious organisations after the next hurricane. This is in keeping with the support received after the last hurricane, 78% of Fijians, 55% of Hindus, and 63% of Muslims received at least some support after the last hurricane.

95% of Hindus, 81% of Muslims, and 61% of Fijians report expecting support from their respective communities after the next hurricane. Combined with expected religious support and taking into account previous housing damage a picture of the situation emerges. However overall expectation of the effect of further hurricanes differs with 13% of Muslims, 33% of Fijians, and 90% of Hindus expecting to fare well during the next hurricane.

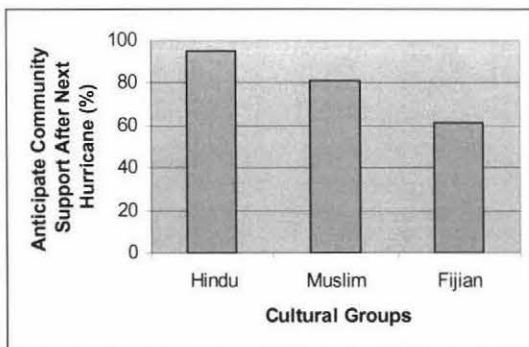


Figure 22

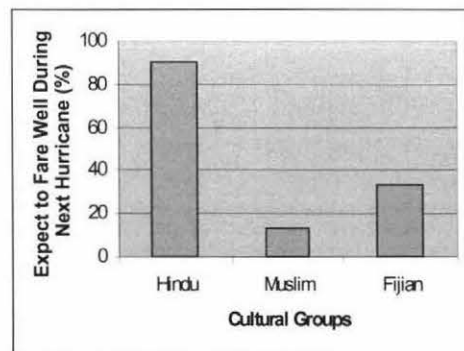


Figure 23

Part Two: Quantitative Data

5.0 Statistical Procedures

Single factor Analysis of Variance tests were performed upon the four measures of traumatic stress used in the quantitative section of this study using the data analysis package in Excel 97.

5.1 Results

The Impact of Events Scale

IMPACT
Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
FIJIAN	34.000	832.000	24.471	80.439
HINDU	32.000	881.000	27.531	127.096
MUSLIM	31.000	861.000	27.774	249.514

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	224.265	2.000	112.133	0.749	0.476	3.093
Within Groups	14079.859	94.000	149.786			
Total	14304.124	96.000				

The HSCL

HSCL
Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
FIJIAN	34.000	1087.000	31.971	56.939
HINDU	32.000	1220.000	38.125	130.758
MUSLIM	31.000	1159.000	37.387	194.312

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	749.206	2.000	374.603	2.994	0.055	3.093
Within Groups	11761.825	94.000	125.126			
Total	12511.031	96.000				

The Expectation Scale

EXPECT
Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
FIJIAN	34.000	857.000	25.206	77.199
HINDU	32.000	1092.000	34.125	38.371
MUSLIM	31.000	857.000	27.645	87.570

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1386.339	2.000	693.170	10.238	0.000	3.093
Within Groups	6364.156	94.000	67.704			
Total	7750.495	96.000				

The Assistance Scale

ASSIST
Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
FIJIAN	34.000	996.000	29.294	61.062
HINDU	32.000	961.000	30.031	60.483
MUSLIM	31.000	699.000	22.548	82.123

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1073.182	2.000	536.591	7.939	0.001	3.093
Within Groups	6353.705	94.000	67.593			
Total	7426.887	96.000				

A moderate positive correlation was observed between the *Impact of Events Scale* and the *HSCL 21*; however no statistically significant difference was detected between the three cultural groups using these instruments.

The two scales were constructed specifically for use within the Fijian Island community. The *Expectation Scale* and the *Assistance Scale* both showed statistically significant differences between cultural groups to a level of 0.05.

Chapter Four

Discussion

Part One: Specific Differences

1.0 Introduction

As has been discussed in the literature review the three cultures in this study differ in several important ways.

➤ Religious/Cultural Group

Fijians expect higher levels of assistance and lower demands are placed upon them after a hurricane than their Indian counterparts.

➤ Housing

Muslim and Hindu Indians generally inhabit housing of a higher standard of construction and occupy higher areas of town than Fijians. Fijians dominate state rental housing as opposed to privately owned family homes.

➤ Socio-economic Levels

Higher socio-economic levels amongst Indians indicate higher levels of *literacy* for Muslim and Hindu groups than for Fijian.

➤ Previous Experience

Post disaster experience with government agencies results in higher *fatalism* among Indians than among Fijians.

Differences of this magnitude suggest cultural variation in Fiji is sufficient to significantly affect any traumatic stress reaction.

2.0 Specific Differences

Specific differences among Muslim, Fijian, and Hindu groups include social support, religious support, housing location, housing quality, housing ownership, and literacy and fatalism as functions of socio-economic status.

2.1 Social Support

As detailed in the literature review (5.2) the nature and perception of social support strongly influences traumatic stress reaction. Cultural differences in the perception of social support, such as what constitutes social support, reciprocity, and locus of control (literature review 4.2), serve to illustrate differences between the Fijian, Muslim, and Hindu cultures.

Reciprocity differs among cultures with some cultures returning the same type of support that they received, others returning other types of support (Literature Review, 5.2). It is possible that certain reciprocity practices are more effective at countering traumatic stress reaction than others. While no measure of reciprocity was undertaken in this study, Antonucci et al, (1990) reported that non-reciprocal relationships were related to lower socio-economic status, and that reciprocal relationships were positively related to life satisfaction (Literature Review, 5.2). Although these studies were based upon western populations it still raises the possibility that higher levels of socio-economic status among Fijian Indians may indicate a higher prevalence of reciprocal relationships, perhaps resulting in higher satisfaction with social support and thereby lower traumatic stress reaction.

Perception of just what social support entails differs among cultures (Literature Review, 5.2). Harrison et al (1995) have reported that some cultures perceive social support as being supplied from their social network, while others draw social support from their families. These studies are not based upon Fijian, Fijian Indian, or Indian populations, however they do highlight the possible differences in perception among social support among cultures. Muslim and Hindu views upon the inequality in the distribution of aid after hurricanes may have some bearing upon their perception of social network support, thus affecting the nature and extent of any traumatic stress reaction.

Locus of control differs between groups in Fiji as a function of religion, socio-economic status, and previous experience with Fijian authorities. Islamic and Hindu culture, through the beliefs of divine retribution and karma, reveal high levels of fatalism. This may be offset somewhat by the link between socio-economic status and fatalism. That is, as Fijians are of a lower socio-economic level, and fatalism has been shown to be higher in lower level socio-economic groups (Ross et al, 1983), then the three groups of Hindu, Muslim, and Fijian, may be assumed to hold similar levels of fatalism. The deciding factor for assessing levels of fatalism in Fiji comes from the previous experience individuals and groups have had in dealing with Fijian government supplied aid. Interviews conducted as a part of this study revealed that of those who considered the allocation of aid to be biased, twenty percent of Hindus and twenty five percent of Muslims believed it to be racially based. No Fijians reported this to be the case (Results Section, 2.5). Thus several factors combine to indicate a higher level of fatalism may be present among Muslims and Hindus than among native Fijians.

Religious support was hypothesised to be a key factor and results

supported this. Religion affected a host of factors including the choice of schools for children, major events such as funerals and weddings, and the physical appearance of individuals in the community. Perhaps the most important aspect of religious difference was the financial ability of the individual religious organisations and the effect of this upon their members. Results showed statistically significant differences between the three cultural groups in the amount of support they anticipated from their religious organisations and the demands that would be placed upon them by their respective religious groups after a hurricane.

The financially stable Christian Church was able to provide considerable assistance to its members, supplying food, clothing, and building materials, and even building replacement houses for members whom had lost their homes. Their members were aware of this and were confident of such support in the future. Mosques and Temples, being of limited financial means, were unable to provide their members with financial support after a hurricane, instead requesting financial and material assistance from their members. The results of the questionnaire (Appendix 8) administered to participants in this study revealed a statistically significant difference between Fijians and Indians in how much support they expected from their religious organisations after a hurricane. Statistically significant differences were also observed between Fijians and Indians in how much demand they expected their respective religious organisations to place upon them after a hurricane. That is, Indians anticipated a significantly higher demand to be made of them by their Mosques and Temples than did Fijians after a hurricane; and native Fijians expected significantly higher levels of support from their church than did Indians after a hurricane.

2.2 Socio-economic Factors

Socio-economic factors directly affected a number of other issues. As native Fijians were highly represented in the lower socio-economic group, and Indians better represented in the upper levels of the socio-economic strata, several socio-economic based differences were noted between the three cultural groups. Housing location, quality, and ownership differed between the three groups, as did rates of literacy.

Fijians, as members of the lower socio-economic group, suffered disproportionately from the added dangers of land slides and flooding as well as high winds due to the low lying location of their housing. As discussed in the literature review (4.2) this put them at increased risk from personal injury, loss of home, loss of possessions, and relocation. The high-risk location of Fijian housing, with the associated risk factors, may have contributed to an increased impact upon Fijians during a hurricane. This increased impact may have been offset some what by the increased risk of dangerous high winds in the high (upper socio-economic) areas dominated by the two Indian groups.

Differences between the three cultural groups in housing quality (Literature Review, 4.1) also impacted more upon the native Fijians than the two Indian groups. Housing of a lower quality construction can be viewed as a function of lower socio-

economic status and resulted in higher risk of personal injury, loss of family home, loss of possessions, and relocation for the native Fijian group. The impact of this added risk may have been offset to a degree by the potential financial enormity of replacement of possessions and repair of more expensive dwellings for the upper socio-economic Indian groups. The extremely lightweight construction of traditional Fijian "bure" housing also increased the likelihood of loss of possessions, loss of family home, and relocation. However, the impact of these factors may have been reduced by the relative ease, both financially and in practical application, of reconstructing such dwellings.

Housing ownership (Literature Review, 4.3) differed between the three cultural groups with native Fijians highly represented in state rental housing. Lassarre (1986) reported strong links between home ownership (as opposed to rental housing) and life satisfaction. Thus, with the impending threat of destruction this factor may result in increased impact upon the two Indian groups that were over represented in privately owned housing.

Rates of literacy also vary as a function of socio-economic status (Literature Review 4.2). Procedures such as finance eligibility, supply of building materials, clothing, food, and medical assistance are all dependent on literacy. Accordingly, native Fijians may have been disadvantaged in the area of post disaster recovery. That is, due to overall standards of literacy native Fijians may not have fully understood application forms and procedures for assistance, utilisation of existing facilities, or paths for complaint.

Part Two: Vulnerability Factors

3.0 Physical Characteristics

The three cultural groups in this study differ in certain physical characteristics. Three physical differences between the cultural groups were observed: those of "housing quality," "housing location," and "religious support/expectation." Due to factors such as socio-economic status, the quality and location of housing differed between the three groups. Furthermore, certain religious organisations, due to overseas financing, were able to offer more physical support and provisions to their members than were localised religious organisations that were compelled to request financial and physical assistance from their members.

4.0 Vulnerability Factors

Figure One displays a tabulation of vulnerability factors that have been identified within the risk factors of *religious/cultural group*, *housing* and *socio-economic status*.

Vulnerability Factors							
	Religious/Cultural Group		Housing			Socio-economic Status	
	Anticipates Assistance	Anticipates Demands	Location	Quality	Ownership	Literacy	Fatalism/ Locus of Control
Fijian	Low Risk	Low Risk	High Risk	High Risk	Low Risk	High Risk	Low Risk
Hindu	High Risk	High Risk	Low Risk	Low Risk	High Risk	Low Risk	High Risk
Muslim	High Risk	High Risk	Low Risk	Low Risk	High Risk	Low Risk	High Risk

Figure 1

4.1 Religious/Cultural Group

Native Fijians are at low risk in both the *anticipated assistance* and the *anticipated demands* sections. That is, Fijians anticipate high levels of assistance from their church placing them in a low risk category for traumatic stress reaction, and they anticipate only low demands being placed upon them by their church after a hurricane, again placing them in a low risk category.

Conversely, Hindu and Muslim Indian groups are at high risk in both the *anticipated assistance* and the *anticipated demands* sections. That is, both Indian groups anticipate low levels of assistance from their Temples and Mosques (Literature Review, 5.4), and major demands being placed upon them after a hurricane, placing them in a high-risk group for traumatic stress reaction.

4.2 Housing

Native Fijians are in high-risk groups for both *Housing Location* and *Housing Quality*. Housing in low lying areas is prone to flooding and land slides, as well as hurricane force winds (Literature Review, 4.2), putting the inhabitants at increased risk from loss of family home, loss of possessions, personal injury, and relocation. Native Fijians are also over represented in poor quality housing (Literature Review, 4.1), increasing the risk of loss of possessions, loss of family home, and relocation.

Muslim and Hindu Indians are highly represented in housing of a high quality construction, placing them in a low risk group for traumatic stress reaction. As mentioned in the Literature Review (4.2) Hindu and Muslim Indians have a disproportionately high representation in housing in high areas. While these areas are subject to severe hurricane winds, they are not at risk from flooding or landslides, and their housing is generally of a higher quality construction, consequently they are classified as a low risk group.

Native Fijians are highly represented in state rental housing. As discussed in the Literature Review (4.3) the loss of privately owned homes, as opposed to rental homes, may have more impact upon the inhabitants. Thus, Fijians have been classified as a low risk group, Muslim and Hindu Indians as a high-risk group.

4.3 Socio-economic Status

Literacy as a function of socio-economic status can be expected to be of a higher level in the two Indian groups (Literature Review, 6.2). As literacy is advantageous for securing post disaster services, Fijians are classified as being in a high-risk group for traumatic stress, and Muslim and Hindu Indians as being in low risk groups.

5.0 Predictions of Traumatic Stress

Using the *Vulnerability Factors* table an estimation of the traumatic stress that a cultural group is exposed to may be calculated. Using the variables of Religious Demands/Assistance, Housing Location/Quality/Ownership, and Literacy, the degree of risk any one cultural group is exposed to may be estimated.

Part Three: Associated Issues

6.0 Researcher

Parham (1993) has criticised white researchers conducting cross-cultural research stating that they are consciously and unconsciously guilty of misdiagnoses, mislabelling, and stereotyping. While this study was conducted by a white male researcher, great care was taken to comply with the suggestions of Demi & Warren (1995), Atkinson (1993), Lee (1993), Parham (1993, 1990), Pederson (1993), and Kimmel (1988), and ensure that cultural values, practices, and beliefs were honoured. Ethnocultural bias has in the past been a serious problem (Marsella et al, 1996 & Parham, 1993) in cross-cultural research. This study attempted to avoid, as far as possible, the ethnocentric tendency "to view one's own way of thinking or behaving as the right, correct, or moral way, and to reject all others as incorrect or of limited accuracy or value" (Marsella et al, 1996).

6.1 Instruments

A major consideration when using psychological instruments is whether they will measure the intended construct. This is particularly true in cross-cultural psychology where the population under study may have radically different values, practices, and beliefs from those of the author and administrator of the test.

The first instrument used was an interview question sheet. The interview contained 30 open-ended questions, of a straightforward nature, regarding the respondent's experience with the last hurricane. The questions were read out to the respondents to ensure a full understanding of their meaning.

The formal instruments used in this study were the *HSCL-21* symptom checklist, and the *Impact of Event Scale*. Marsella et al (1996) maintain that measurement of traumatic stress reaction remains a serious problem because the existing instruments often do not include indigenous idioms of distress or causal conceptions of traumatic stress reaction (e.g. somatic symptoms). Jenkins (1996) has pointed-out that problems exist in identifying events that symbolise or resemble the event in question. The questions used in this study are all brief, of simple construction, and use non-technical language. Furthermore, education in Fiji is conducted in English, both native Fijians and Indians receive

instruction in written and spoken English. With that in mind, the three questionnaires were deemed suitable for use in this study.

The validity and reliability of the three questionnaires must also be considered for use in a cross-cultural setting. Jenkins (1996) has predicted the emergence of cultural variability in the phenomenology, course, and outcome of traumatic stress reaction. Keane et al, (1996) have warned that ignoring cultural relevance for an instrument will be reflected in reliability and validity studies. While this study was conducted in a third world country with members of three non-western cultures it is felt that the questionnaires were of an easily comprehensible nature and that the recipients were sufficiently accustomed to written and spoken English to return a valid result. Keane et al, (1992) report that progress and understanding of traumatic stress reaction and its implications can be traced to the development of reliable and valid methods of assessing traumatic events and traumatic stress reaction. Newman et al, (in press) have reported that measures of psychophysiology have become increasingly accepted as a component of the comprehensive assessment of traumatic stress reaction.

6.2 Cultural Definitions

This study is open to question on the matter of cultural variation in defining the experience of trauma. That is to say, ethnocultural experience may play an important role in determining individual interpretation of a traumatic event. Rosaldo (1984) has documented the extent to which culture mediates the experience and expression of emotion. Jenkin's and Karno's (1992) definition of culture included "a peoples unselfconscious medium of experience, interpretation and action." And Marsella et al, (1996) have reported that ethnocultural experience determines what constitutes trauma. However, the first stage of this study involved asking members of the three cultural groups about their experience with previous hurricanes and a questionnaire was constructed from that information. In essence, the questionnaire was based upon the recipients interpretation of the traumatic event. Furthermore Marsella et al (1996) have reported that research is generally consistent in supporting the existence of a universal biological response to traumatic events.

6.3 Individual verses Collective Assessment

This study used individual interviews to assess experience with previous hurricanes. Jenkins (1996) has stated that person centred accounts of trauma alone are insufficient to gain an understanding of traumatic stress reaction, and that the collective nature of trauma is closely related to the cultural definition of trauma (Jenkins, 1991). While this study conducted individual interviews initially, all the individual interviews were combined and efforts were made to identify underlying factors that affected the cultural groups as a whole.

6.4 Achievements of this Study

It is hoped that this study has contributed to the understanding of the important influence of cultural factors in determining the nature and intensity of traumatic stress reaction, in particular the distinction between religious support and religious expectations, which may help or exacerbate traumatic stress reaction respectively.

6.5 Limitations of this Study

Due to the limited time frame of this study only twenty people from each of the three cultural groups were interviewed and thirty people from each of the three cultural groups were issued with a questionnaire. The validity and reliability of any study is reduced by small sample size. While a larger sample population would have been ideal, the present sample population size is considered adequate to illustrate the need for further study of the interaction between religious support and expectation, and traumatic stress reaction.

Further limitations of this study include a lack of in-depth knowledge of the language and culture of the three cultural groups. It is felt that a working knowledge of Fijian and Hindi may have aided the flow of information during the interview stage. Even though the respondents spoke and wrote (87% literacy) English to a moderate degree, speaking in their first language may have caused them less anxiety and allowed them to describe their experiences in detail, without the hindrance of language difficulty.

A detailed knowledge of the respective cultures would also have enabled the inclusion of specific and detailed cultural experience into the religious support and expectation questionnaire. Although the questionnaire was based upon the experiences of the sample population, Marsella et al (1996) have reported that ethnocultural experience determines what constitutes trauma.

6.6 Recommended Improvements

The scope of this study could be greatly improved by including a more in-depth examination of the ethnocultural make-up of the three cultures. This would be in keeping with recommendations from cross-cultural psychologists (Marsella et al, 1996; Marsella et al, 1986; Marsella, 1978) currently involved in research. Marsella et al, (1996) have noted that it is important to consider ethnocultural variations in the definition and expression of traumatic stress reaction. According to Marsella et al, (1996) the use of standard definitions in identifying traumatic stress reaction can lead to false positives and false negatives in the rates, leading to erroneous conclusions.

Marsella et al, (1996) have published a number of strategies for conducting cross-cultural research that could be utilised to improve the validity of this study. These studies include exploring the frequency of symptoms in different ethnocultural groups as compared to standard western samples; exploring symptom profiles of samples from different ethnocultural groups;

conducting surveys of symptoms of traumatic stress reaction from people of different countries; and comparing symptom profiles of traumatic stress reaction from different ethnocultural groups, controlling for age, gender, social economic status, education, and social class. Further suggestions include the examination of culture-specific disorders such as "latah," "koro," and "susto."

6.7 Implications for Further Research

Cross-cultural issues are receiving increased attention (Wilson & Raphael, 1993; Marsella et al, 1992) and are particularly pertinent in research on traumatic stress reaction. The need to develop methodologies for use in cross-cultural settings with diverse contexts and populations has been highlighted by Keane et al, (1996) and this study is intended to contribute to the growing knowledge of the role of ethnocultural factors in traumatic stress reaction.

The influence of ethnocultural factors should be incorporated into research on disaster rescue and post-disaster aid, for both the affected population and rescue workers alike.

6.8 Implications for Practical Application

Mounting evidence highlighting ethnocultural variation, as supported by this study, suggests a better understanding of individuals in the context in which they function is necessary to gain an accurate picture of the nature of traumatic stress reaction. Keane et al, (1996) have suggested that multiple indicators are one means of improving understanding. Keane et al, (1987) have reported methods for assessing traumatic reaction which include assessment of the stressor variable and broad based symptom measurement including obtaining information from the individual, from collateral informants, all available records, psychological tests, and psychophysiological indices.

Appendices

APPENDIX ONE	INFORMATION SHEET (INTERVIEW)
APPENDIX TWO	"YOUR RIGHTS AS A PARTICIPANT" (INTERVIEW)
APPENDIX THREE	CONSENT FORM (INTERVIEW)
APPENDIX FOUR	SEMI-STRUCTURED INTERVIEW QUESTIONS (INTERVIEW)
APPENDIX FIVE	INFORMATION SHEET (QUESTIONNAIRE)
APPENDIX SIX	"YOUR RIGHTS AS A PARTICIPANT" (QUESTIONNAIRE)
APPENDIX SEVEN	CONSENT FORM (QUESTIONNAIRE)
APPENDIX EIGHT	QUESTION SHEET (QUESTIONNAIRE)
APPENDIX NINE	HSCCL-21, SYMPTOM CHECKLIST
APPENDIX TEN	IMPACT OF EVENT SCALE

Traumatic Stressors Study

INFORMATION SHEET

Interview

Researchers from Massey University are conducting research on the effect cultural factors play in the way people deal with traumatic incidents. Researchers are Associate Professor in Psychology, Dr Douglas Paton and Masters student Matthew Gillard. We would like to take this opportunity to invite you to participate in this study.

This preliminary stage of research involves an interview with a sample of the community living on the hurricane belt in Lautoka, Fiji. The information obtained from the interviews will be used to develop a questionnaire measure of cultural differences in the way people cope with traumatic stressors that will be administered in a second stage of the research.

We are seeking approximately 20 people from each of the three cultural groups (Fijian, Muslim, and Hindu). All parties involved in the data collection will sign confidentiality statements.

Please do not hesitate to contact any of the researchers if you have any queries about the interview or any of the research in general. You may wish to call Doug Paton at (06) 350 6151 (New Zealand) or fax him at (06) 350 5673 (New Zealand). Or call Matt Gillard at (06) 356 2095 (New Zealand) or 663461 Lautoka, Fiji.

WHAT IS THE PRESENT STUDY ABOUT?

The present study will investigate the effect of cultural differences in the way that people deal with traumatic stressors. The traumatic stressors to be investigated in this study are the seasonal hurricanes that hit Fiji. This information will be used to further develop the existing modes of disaster relief and the practices of trauma intervention.

WHAT WILL YOU BE ASKED TO DO?

You will be asked to take part in a face-to-face interview that will take about one hour of your time. You will not be expected to answer any questions that you do not feel comfortable about and you have the right to decline to answer any question(s). In addition, you have the right, at any point in the interview, to decline to participate any further in the interview and the study.

The results may include quotations from those interviewed. **Quotations will only be used if you give your permission for their use.**

The information obtained in this research could benefit those living in areas subject to hurricanes and other natural disasters. However, participants should be aware that

these benefits are likely to occur sometime in the future, so no immediate benefit may be apparent to participants.

Should you have any concerns arising from your participation, please contact one of the researchers. If necessary, they can arrange for confidential referral to an appropriate agency.

All information will be treated in strictest confidence. The interview data will be available only to the researchers and stored in a secured area. Participants will be given the opportunity to be provided with a summary of results at the conclusion of the study. No reference to individuals will be contained in these summaries, nor will they contain any information about geographical information that could be used to identify individuals.

YOUR RIGHTS AS A PARTICIPANT

All participants:

- * Have the right to contact the researchers at any time during the research to discuss any aspects of the study.
- * Have the right to refuse to answer any question.
- * Have the right to withdraw from the study at any time.
- * Provide information on the understanding that written transcripts will be maintained in a locked file, within a locked office, and will be destroyed three months after the study is complete. It will not be possible to identify individuals in any reports of the results.
- * Have the right to receive summary information about the results of the study upon its completion.

DOUGLAS PATON

MATT GILLARD

Measuring Traumatic Stressors

CONSENT FORM

Interview

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate and I understand that I have the right to withdraw from the study at any time and decline to answer any particular questions.

I agree to provide information to the researchers on the understanding that my name will not be used without my permission. If any quotations are used for publication, every care will be taken to ensure the anonymity of the speaker. The information will only be used for this research and publications arising from the research project.

I agree to participate in this study in the conditions set out in the Information Sheet.

Signed

Name

Date

Semi-structured interview questions

Part One.

Section 1.

1. Were any members of your family affected by the last hurricane? Any of your friends/neighbours? If so, how did you feel about this?
2. Was your home damaged by the hurricane? To what extent?
3. Do you feel that you received adequate help during and after the last hurricane?
4. Did you receive help at a spiritual level from your church/caliphate/fellow worshipers?
5. How did you feel about this help? Did you appreciate it or consider it a burden?
6. Did you receive help at a social level from your community? Any one group in particular.
7. How did you feel about this social support (or lack thereof)? Did it assist or hinder you?
8. Did you receive financial support? Was it adequate? Did it arrive quickly enough?
9. How do you feel about the financial support offered? Do you feel everyone was treated equally/fairly?
10. How did your family cope with the hurricane? Children in particular.
11. What was the most distressing aspect of the hurricane?
12. Were there any positive outcomes from the last hurricane?

Section 2.

1. What type of support did you receive support from your church/caliphate/religion after the disaster? Spiritual/physical.
2. How do you feel about the support you received? Both aspects adequate?
3. Was the support what you expected? more/less?
4. Did the members of your church/caliphate/religion stick together and support each other?
5. Does your church/caliphate/religion teach its members to stick together or co-operate during such experiences?
6. Do you think your church/caliphate/religion provided better support than the other religious denominations/faiths?
7. Do you think the members of your church/caliphate/religion fared better than members of other faiths?
8. Do you think the beliefs of your church/caliphate/religion are helpful in these situations? If so what beliefs in particular?
9. Do you think the other faiths have any beliefs that may inhibit effective coping with the hurricanes or other disasters? If so what beliefs?

Section 3.

1. Do you believe there is any special reason for the hurricanes? If so what?
2. Does your church/caliphate/religion have any beliefs about the cause of the hurricanes? If so what?
3. Do any members of your community have any different beliefs about the cause of the hurricanes? If so what?
4. How do you feel about the arrival of another hurricane?
5. Does your church/caliphate/religion have any views regarding the coming hurricanes? If so what?
6. If your church/caliphate/religion has any beliefs or teachings regarding the hurricanes do you strongly support them?
7. Are there any members of your church/caliphate/religion who hold beliefs regarding the hurricanes that you do not agree with? If so what?
8. If your community has any views regarding the hurricanes do you strongly agree with them
9. Are there any members of your community who hold beliefs regarding the hurricanes that you do not agree with? If so what?
10. How well do you think you and your family will deal with the next hurricane?
11. How well do you think your church/caliphate/religion and community will deal with the next hurricane?
12. How much support do you expect to receive from the community after the next hurricane?
13. How much support do you expect to receive from your church/caliphate/religion after the next hurricane?

Traumatic Stressors Study

INFORMATION SHEET Questionnaire

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WHAT WILL YOU BE ASKED TO DO?

You will be asked to complete a questionnaire that will take about twenty minutes of your time. You will not be expected to answer any questions that you do not feel comfortable about and you have the right to decline to answer any question(s).

Filling out the questionnaire implies consent to participate in the study.

All information will be treated in strictest confidence. The questionnaire data will be available only to the researchers and stored in a secured area. Participants will be given the opportunity to be provided with a summary of results at the conclusion of the study. No reference to individuals will be contained in these summaries, nor will they contain any information about geographical information that could be used to identify individuals.

The information obtained in this research could benefit those living in areas subject to hurricanes and other natural disasters. However, participants should be aware that these benefits are likely to occur sometime in the future so no immediate benefit may be apparent to participants.

Should you have any concerns arising from your participation, please contact one of the researchers. If necessary they can arrange for confidential referral to an appropriate agency.

YOUR RIGHTS AS A PARTICIPANT

All participants:

- * Have the right to contact the researchers at any time during the research to discuss any aspects of the study.
- * Have the right to refuse to answer any question.
- * Have the right to withdraw from the study at any time.
- * Provide information on the understanding that written transcripts will be held in complete confidence by the researchers, to be used only for the purpose of research. It will not be possible to identify individuals in any reports of the results.
- * Have the right to receive summary information about the results of the study upon its completion.

DOUGLAS PATON

MATT GILLARD

Measuring Traumatic Stressors

**CONSENT FORM
Questionnaire**

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate and I understand that I have the right to withdraw from the study at any time and decline to answer any particular questions.

I agree to provide information to the researchers on the understanding that my name will not be used without my permission. If any quotations are used for publication every care will be taken to ensure the anonymity of the speaker. The information will only be used for this research and publications arising from the research project.

It is assumed that filling in the questionnaire implies consent

I agree to participate in this study in the conditions set out in the Information Sheet.

Signed

Name

Date

Cultural/Religious Support Questionnaire

Name:

Race:

Religion:

Part One:

- | | Not Much | A Lot |
|--|---------------|----------|
| 1. How much spiritual support (prayers etc) do you expect from your Church/Temple/Mosque after a hurricane? | 1 2 3 4 5 6 7 | |
| 2. How much physical support (visits) do you expect from your Church/Temple/Mosque after a hurricane? | 1 2 3 4 5 6 7 | |
| 3. How much physical aid (food/clothes/building material) do you expect from your Church/Temple/Mosque after a hurricane? | 1 2 3 4 5 6 7 | |
| 4. How much physical aid (labour/help to rebuild your house) do you expect from your Church/Temple/Mosque after a hurricane? | 1 2 3 4 5 6 7 | |
| 5. How much financial aid do you expect from your Church/Temple/Mosque after a hurricane? | 1 2 3 4 5 6 7 | |
| 6. Do you expect other Churches/Temples/Mosques to help your Church/Temple/Mosque support you after a hurricane? | 1 2 3 4 5 6 7 | |
| | Easy | Not Easy |
| 7. How easy is it to get support from your Church/Temple/Mosque? | 1 2 3 4 5 6 7 | |

Part Two

	Not Much	A Lot
1. Does your Church/Temple/Mosque expect you to spend a lot of time praying after a disaster like a hurricane?	1 2 3 4 5 6 7	
2. Does your Church/Temple/Mosque expect you to give money to help the Church/Temple/Mosque after a hurricane?	1 2 3 4 5 6 7	
3. Does your Church/Temple/Mosque expect you to supply labour to help you fix the Church/Temple/Mosque after a hurricane?	1 2 3 4 5 6 7	
4. Does your Church/Temple/Mosque expect you to give money for the poor members of your Church/Temple/Mosque after a hurricane?	1 2 3 4 5 6 7	
5. Does your Church/Temple/Mosque expect you to supply labour to help fix the houses of poor members after a hurricane?	1 2 3 4 5 6 7	
6. Does your Church/Temple/Mosque expect you to donate food/clothing/building materials to the poor after a disaster like a hurricane?	1 2 3 4 5 6 7	
7. Does your Church/Temple/Mosque expect much of your time after a disaster like a hurricane?	1 2 3 4 5 6 7	
8. Is there a lot of pressure to assist your Church/Temple/Mosque after a hurricane?	1 2 3 4 5 6 7	

**HSCL – 21
SYMPTOM CHECKLIST**

The following questionnaire is a standard one dealing with general stress symptoms. Please describe how much each of the symptoms you experienced **during the past seven days**. Please use the following scale to record your responses.

Not at all	1
A little bit	2
Quite a bit	3
Extremely	4

Difficulty in speaking in times of excitement	1	2	3	4
Trouble in remembering things	1	2	3	4
Concerns about sloppiness or carelessness	1	2	3	4
Blaming yourself for things	1	2	3	4
Pains in the lower part of your back	1	2	3	4
Feeling lonely	1	2	3	4
Feeling 'blue'	1	2	3	4
Your feelings being easily hurt	1	2	3	4
Feeling that others do not understand you, or are unsympathetic	1	2	3	4
Feeling that people are unfriendly, or dislike you	1	2	3	4
Having to do things slowly, to ensure you are doing them properly	1	2	3	4
Feeling inferior to others	1	2	3	4
Muscle soreness	1	2	3	4
Having to check and double check what you do	1	2	3	4
Occasional hot or cold spells	1	2	3	4
Your mind occasionally going blank	1	2	3	4
Either a numbness or tingling in your body	1	2	3	4
A lump in your throat	1	2	3	4
Trouble in concentrating	1	2	3	4
Feeling of weakness in parts of your body	1	2	3	4
Occasional 'heavy' feelings in your arms and legs	1	2	3	4

Impact of Event Scale

Below is a list of comments made by people after stressful life events. Please check each item, indicating how frequently these comments were true for you DURING THE PAST SEVEN (7) DAYS. If they did not occur during that time, please mark the "not at all" column.

Please use the following scoring system.

		0: Not at all	1: Rarely	3: Sometimes	5: Often
1.	I thought about it when I didn't mean to.	0	1	3	5
2.	I avoided letting myself get upset when thought about it.	0	1	3	5
3.	I tried to remove it from my memory.	0	1	3	5
4.	I had trouble falling asleep or staying asleep, because pictures or thoughts about it came into my mind.	0	1	3	5
5.	I had waves of strong feelings about it.	0	1	3	5
6.	I had dreams about it.	0	1	3	5
7.	I stayed away from reminders about it.	0	1	3	5
8.	I felt as if it hadn't happened or wasn't real.	0	1	3	5
9.	I tried not to talk about it.	0	1	3	5
10.	Pictures about it popped into my mind.	0	1	3	5
11.	Other things kept me thinking about it.	0	1	3	5
12.	I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	3	5
13.	I tried not to think about it.	0	1	3	5
14.	Any reminder brought back feelings about it.	0	1	3	5
15.	My feelings about it were kind of numb.	0	1	3	5

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