

HELPING, CARING AND LEARNING:
STRENGTHS IN NEW ENTRANTS SETTLING INTO AND LEARNING
IN PRIMARY SCHOOL IN POST-EARTHQUAKE CHRISTCHURCH

A thesis submitted in partial fulfilment of the requirements for the

Degree

of Master of Arts in Child and Family Psychology

in the University of Canterbury

by Annabel Louise Carter

University of Canterbury

2013

Table of Contents

Acknowledgements	i
Abstract.....	ii
Chapter 1	1
Introduction.....	1
Post-traumatic Stress Disorder (PTSD)	3
Resilience.....	6
Christchurch Content	8
Chapter 2	11
Review of the Literature: Children’s Responses to Earthquakes.....	11
Summary and Limitations of Earthquake studies	22
Children’s Voices.....	23
Chapter 3	29
Māori concepts of resilience	29
Māori Worldview and Resilience	30
Māori Perspectives of Resilience and PTSD	36
Social Connectedness Research	37
Chapter 4	40
Method	40
Ethical Approval	42
Setting	43
Participants.....	43
The Interview Questions	44
Procedure	45
Chapter 5	47
Results	47
Child Interviews and Voices	48
Billy.	48
Alex.....	50
Maisie.....	54

Patrice.	56
Conner.....	60
Peter.	62
Kurt.	65
Tim.....	68
Jacinda.	71
Rawiri.....	74
Josie.	76
Ross.....	79
Scott.	83
Whitney.....	86
Hemi.....	89
Melinda.	92
Rewa.	94
Investigating Themes	96
Chapter 6	104
Discussion.....	104
Gender and Ethnicity	108
<i>1 Te Whare Tapa Whā Dimension</i>	112
<i>2 Te Whare Tapa Whā Dimensions</i>	112
<i>3 Te Whare Tapa Whā Dimensions</i>	112
<i>4 Te Whare Tapa Whā Dimensions</i>	113
Te Ao Māori.....	113
Limitations and Strengths	116
References.....	118

List of Figures

Figure 1: Stage of Community Response to Disaster (Shaw et al., 2012).....	3
Figure 2: Māori Worldview Principles (Ritchie, 1992).....	33
Figure 3: A Depiction of Wholeness (Irwin, 1984).....	33
Figure 4: A Māori depiction of Wholeness (Durie, 1994).....	34
Figure 5: The ecology of belonging and well-being (Macfarlane et al., 2008)	35
Figure 6: Māori concept of nested resilience	36
Figure 7: Alex’s Drawing	53
Figure 8: Patrice's Drawing.....	59
Figure 9: Peter’s Drawing.....	64
Figure 10: Kurt’s Drawing.....	67
Figure 11: Tim’s Drawing	70
Figure 12: Jacinda’s Drawing	73
Figure 13: Josie’s Drawing	78
Figure 14: Ross’s First Drawing.....	81
Figure 15: Ross’s Second Drawing.....	82
Figure 16: Scott’s Drawing.....	85
Figure 17: Whitney’s Drawing	88
Figure 18: Hemi’s Drawing	91

Acknowledgements

First and foremost my thanks to my supervisor, Associate Professor Kathleen Liberty, who has been a leader, mentor, teacher and friend during this exciting time and who will always remain a friend. Her knowledge and outstanding passion have helped scaffold my professional learning and her trust and belief at all times has made this all possible. To my second supervisor, Dr. Sonja Macfarlane, who has taught me about indigenous culture and cultural beliefs. I thank you for enriching this research and thesis with considerations of Māori worldviews. Kāore e ārikarika āhaku nei mihi ki a koe mō tō taunaki, tō tautoko mai i te iti rearea nei. E kore rā te Puna Mihi e mimiti.

I gratefully acknowledge the school that participated in this study and the principal and teacher. Thank you to the children who participated in this study.

A special thank you to my partner who has listened and always believed in me. To my family and to my mum, your friendship, interest and humour have been invaluable during this process - thank you.

Thanks to my fellow graduate students who have shared this journey!

Abstract

Christchurch has experienced a series of over 13,500 earthquakes between September 2010 and January 2012. Some children who have been exposed to earthquakes may experience post-traumatic stress disorder symptoms (PTSD) including difficulty concentrating, feeling anxious, restlessness and confusion. Other children may be resilient to the effects of disaster. Western models of resilience relate to a child's social support and their capacity to cope. The Māori model of wellbeing relates to whanau (family), wairua (spiritual connections), tinana (the physical body) and hinengaro (the mind and emotions). Children's concepts of helping, caring and learning may provide insight into resilience without introducing the topic of earthquakes into the conversation, which in itself may provoke an episode of stress. Many researchers have studied the effects of earthquakes on children. However, few studies have examined positive outcomes and resilience or listened to the children's voices.

The objective of this study was to listen to the voices of children who experienced the Canterbury earthquake period in order to gain a deeper understanding of the ideas associated resilience. Individual interviews were conducted with 17 five-year-old participants during their first term of primary school. After the interviews, the teacher shared demographic information and reports on the children's stress and coping. Six children were identified as New Zealand European and eleven children identified as New Zealand Māori.

Children had different views of helping, caring and learning. Themes of resilience from Western and Kaupapa Māori models were identified in transcripts of the children's voices and drawings. Māori children voiced more themes of resilience associated with the Western model, and in the Tapa Whā model, Māori children's

transcripts were more likely to be inclusive of all four components of well-being.

How five-year-old children, having experienced an earthquake disaster during their preschool years, talk or draw pictures about helping, caring and learning can provide insight into resilience, especially in situations where it is not advisable to re-traumatise children by discussing the disaster event. Future research should interview parents/caregivers and whānau to gain further insights. Considering information from both a Western and a Tapa Whā perspective can also provide new insights into resilience in young children. A limitation of this study is that qualitative studies are not always free from a researcher's interpretation and are, therefore, subjective.

Chapter 1

Introduction

Bloom (1999) stated:

A traumatic experience impacts the entire person, the way we think, and the way we learn, the way we remember things. The way we feel about ourselves, the way we feel about other people and the way we make sense of the world. (p. 2)

Stress is a strong emotional response that can occur as a result of a new threat or challenging circumstances (Shaw, Espinel, & Shultz, 2012). An important and fundamental aspect of human existence is experiencing and being exposed to a variety of trauma.

Traumatic stress is the product of three major elements (Reyes, Elhai, & Ford, 2008). The first element occurs when a person, who usually has daily routines including predictable and expected daily events, is suddenly faced with an extreme and unexpected danger or threat. The second element transpires when this person (whilst trying to deal with the unexpected event) does not have the ability or reserves to deal with the unexpected danger, and therefore new and incoming information has the effect of overwhelming existing thoughts in that person's mind. The third element presents when the person is exposed to raw, recurring and highly emotive memories that were previously not present in their life (Reyes et al., 2008).

Traumatic stress refers to psychological and physiological changes that follow an extreme and dangerous threat (Reyes et al., 2008). The main types of events that can cause psychological trauma (Reyes et al., 2008) are: exposure to war, sexual

assault, physical violence, emotional cruelty and exposure to a natural disaster. Other types of traumatic events include: criminal victimisation, physical attack, combat, shock, threat with a weapon, accidents, natural disaster with fire, neglect, physical abuse or being a witness to any of these (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Psychological changes following danger can include a range of intense emotions, thoughts and feelings. Physiological changes that may occur following danger include altered heart rate, difficulty concentrating and trouble sleeping (Shaw et al., 2012).

Traumatic events also cause social problems. Adults may differ in terms of response to traumatic events (Kessler et al., 1995). In some cases individuals may go on to develop long-term debilitating after-effects as a result of a particular trauma. These can include the development of a mental illness, changes in behaviour or moods and a lack of basic resources (Van der Kolk, 1996).

A study undertaken by Kessler and colleagues in 1995 found that the lifetime prevalence of human exposure to trauma (at least one traumatic event) is estimated to affect 60.7% of men and 51.2% of women. In the United States up to 90% of people are known to have been exposed to at least one potentially life-threatening event (Yehuda, McFarlane, & Shalev, 1998). This is consistent with other literature, which indicates that many people who are exposed to some type of trauma in their lifetime experience more than one traumatic event (Kessler et al., 1995; Van der Kolk, 2005).

When analysing disasters researchers have conceptualised the phases of disasters into three phases (Figure 1). The first phase is the pre-impact phase. The second phase includes the impact and heroism while the third phase includes the disillusionment phase, community solidarity and reconstruction. During the pre-impact phase poverty and community vulnerability may impact disaster preparedness.

During the impact phase there may be injury, death and a compromising of community infrastructure and resources. There is also heroism. The post-impact phase includes periods of disillusionment and necessary reconstruction. The latter often lasts many years. If during the post-impact phase there is continuing exposure to stress then this may result in disturbances of cognition, behavioural controls and interpersonal relationships, negative self-attributions, changes in regulations as well as emotional and behavioural problems (Shaw et al., 2012).

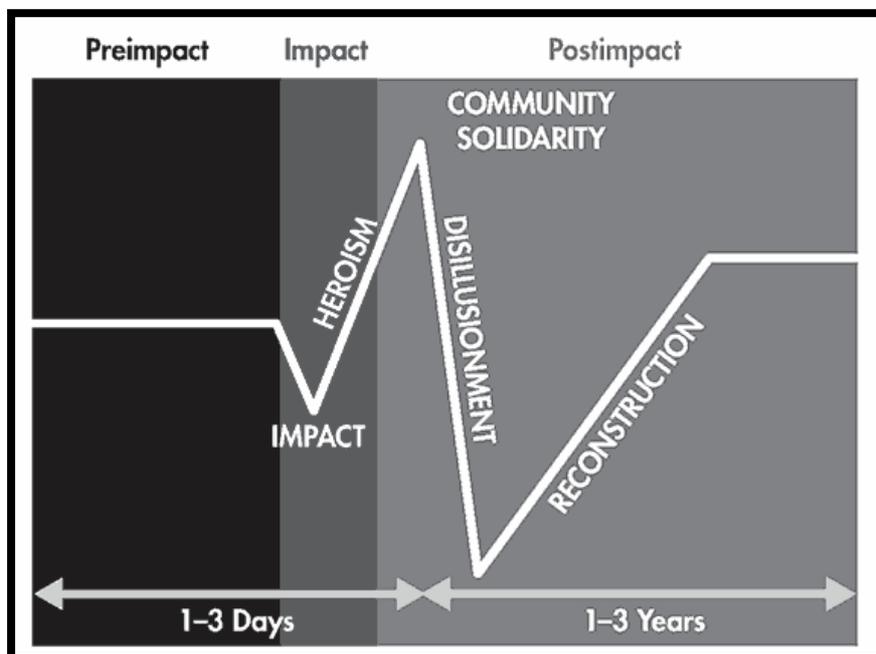


Figure 1: Stage of Community Response to Disaster (Shaw et al., 2012).

Post-traumatic Stress Disorder (PTSD)

After an experience that evokes a traumatic stress response some people become overwhelmed and their capacity to cope is diminished (Van der Kolk, 1996). One of the most serious outcomes of experiencing a traumatic event is the possibility of developing post-traumatic stress disorder. “Post-traumatic stress disorder (PTSD) is a mental health condition that can develop after a traumatic experience where a

person may experience feelings of helplessness, fear and horror” (Van der Kolk, 1996, p. 2).

The PTSD diagnostic criteria were revised in 2013. PTSD moved from 'anxiety disorder' to the 'trauma and stressor related disorder' class. The criteria are specific to children older than 6 years, adolescents and adults include a history of exposure to a traumatic event. Each of the four symptom clusters - intrusion, avoidance, negative alterations in cognitions and moods, and alterations in arousal and reactivity - must be represented by specific stipulations and symptoms. Duration of symptoms, functioning and other symptoms not attributable to a substance or co-occurring medical conditions are assessed. Two specifications, delayed expression and dissociative symptoms, are noted.

PTSD symptoms may not always appear or present in the same way for everyone. Some people will be more afraid than others, some will have trouble sleeping and some will struggle with learning after an extreme stressor. However, others may thrive in the new environment (UNICEF, 2001).

Prevalence studies, based on previous diagnostic criteria, indicate that the lifetime prevalence of PTSD ranges from 1-15% (Bulut & Tayli, 2005; Hawkins & Radcliffe, 2006; Hunter, 2012). Other research shows the range of those exposed to trauma who go on to develop PTSD as between 3% and 58% (Sullivan & Wong, 2011). These figures increase when factors such as gender, age, the type of trauma, severity, proximity to and duration of the event are considered (Bulut & Tayli, 2005; Sullivan & Wong, 2011). PTSD is therefore a common disorder that people develop after trauma (Van der Kolk, 1996).

Many people have experienced natural disasters (Clark, 2012). Recent estimates provided by the United Nation’s office for Disaster Risk Reduction show

that since 1992, 4.4 billion people globally have been affected by naturally occurring disasters (Clark, 2012). Statistics based on a national sample of 2812 men and 3065 women, aged from 15-54 years showed the lifetime prevalence of being involved in a fire, a flood or a natural disaster was 18.9% of men and 15.2% of women (Kessler et al., 1995). It is believed that the risk of being exposed to a natural disaster is now at its highest level ever (Clark, 2012).

Stress from these events can produce negative or positive responses.

According to Ziegler (2011), a negative or positive reaction to stress depends on whether the person believes that they have some degree of control over the situation they are faced with. Some people start to organise things in their lives around the trauma, while others who are temporarily stressed are able to carry on with much less focus on the trauma (Van der Kolk, 2005). Individuals who experience feelings of helplessness and being under threat during and/or after an event are more likely to have a stronger and more heightened reaction.

The significance that is given to an event by an individual is as important as the actual severity of the trauma itself (Van der Kolk, 1996). For example, one individual who experiences a trauma may not consider it to be as bad as another individual who has experienced the same trauma. Their interpretation depends on their capacity to cognitively process the experience and its meaning (Reyes et al., 2008). The differences in interpretation and cognitive processing of traumatic events between people may explain how some go on to develop a PTSD while others do not. When a person has the capacity to deal with what happened during a traumatic event, the memory and any recollection of the event will not repeatedly replay through flashbacks, behaviours, emotions and physiological states (Van der Kolk, 1996).

Even people who are resilient can experience difficulties with the aftermath of traumatic events (Reyes et al., 2008). However, these difficulties do not interfere with daily functioning and last for only a short time. A person might have difficulty sleeping after a trauma, for example, but is still able to perform their job and complete their daily tasks (Reyes et al., 2008). There has been more extensive study of PTSD than research involving those who do not develop PTSD.

Resilience

People may experience resilience following a disaster. The definition of resilience has changed throughout the last three decades. Michael Rutter (1987), writing about resilience argued that it is something that develops when there is an abundance of protective factors that reduces stressors caused by risk or trauma. Grotberg (2001) defines resilience as the strengthening and transforming of a person by a traumatic experience. Boyden and Mann (2005) note that resilience is the capacity to continue healthy functioning (psychological and physical) following exposure to a potentially traumatic event.

Resilience is described by Ziegler (2011) as the ability to bounce back from adversity. Factors related to resilience, according to Ziegler (2011), include a positive mental state, internal confidence and the knowledge that someone believes in them. Ziegler (2011) stated that the ability to maintain a positive outlook is essentially the most important of all of these in terms of being able to manage and cope over time. Shaw (2012) defines resilience as the individual's ability to restore healthy psychological well-being. Resilience is not about someone being invulnerable, but rather about having the capacity to cope or to be resistant to stress.

One important aspect of community resilience is social connections. Having a strong connection with others, including family members, friends and the wider community, is an important facet of community resilience (Ziegler, 2011). Resilience occurs when a community, society or country has sufficient resources available or in place to manage and cope with the effects of a large-scale traumatic event (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). These resources must be sufficient to help the whole society return as much as possible to how it was before the event.

The years 2010 and 2011 saw many severe and costly natural disasters worldwide (Clark, 2012; McDermott, Berry, & Cobham, 2012). On 12 January 2010 an earthquake of magnitude 7.0 struck Haiti. Approximately 3,500,000 people were affected by the quake and 230,000 people are estimated to have died. The city of Port au Prince was torn down, 293,383 homes and 4,000 schools were damaged or destroyed, and overall 1,500,000 people were forced to leave their homes (Hayes et al., 2010). The impact on Haiti was immense after this disaster. There was human suffering, environmental damage and economic hardship.

In 2011 there was an earthquake and subsequent tsunami in Japan, flooding in both Australia and Thailand, earthquakes in New Zealand and the US experienced tornadoes and fires. As populations increase natural disasters affect more people. The large earthquake off the Pacific coast of Japan on 11 March 2011 generated a huge tsunami taking the lives of up to 20,000 people (Maeda, Furumura, Sakai, & Shinohara, 2011). This was the fourth largest earthquake in the world since 1990 (Koketsu et al., 2011) measuring a staggering magnitude 9.0. As in the Haiti disaster, a significant number of houses were destroyed (114,591). The impact and aftermath of this disaster was also extensive.

The floods in Thailand, which affected 1.5 million homes after three months of heavy rain, took the lives of more than 884 people. The floods in Australia and the tornadoes in the US caused similar destruction.

Christchurch Content

Christchurch is a city with a population of approximately 400,000, and is located on the South Island of New Zealand. A series of over 13,500 earthquakes and aftershocks has been experienced by the residents of Christchurch, beginning on 4 September 2010 with a magnitude 7.1 earthquake at the shallow depth of 10-12 kilometres. Ongoing and persistent aftershocks followed and on 22 February 2011 two earthquakes hit at a depth of five kilometres. These earthquakes were just 90 seconds apart. The two earthquakes, magnitude 5.9 and 6.3, were located near the city centre. They caused the deaths of 187 people, injuries to 6,800 people and major destruction to buildings and infrastructure. Earthquake aftershocks continued with major events recorded in April, June, September, and December 2011.

The earthquake on 22 February caused \$12 billion in damage. This event, as reported on the NGO Disaster Relief Forum Aotearoa, was a stark reminder of human vulnerability to natural disasters. The earthquake was centered only six kilometres from the city centre and some urban areas of Christchurch were within one kilometre of the epicenter. The relatively shallow earthquake depth of five kilometres also caused considerable shaking particularly in the city centre. The effects of the seismic vibration may have been amplified by the thick sedimentary layers on which the city is built. Liquefaction, which occurs when soil is subjected to severe shaking causing it to lose strength or stiffness, devastated the city's eastern suburbs (2011).

This earthquake hit at approximately 1pm, a time when there were many visitors in the city centre, workers taking their lunch break and children in school. A girl from a school in the eastern suburbs of Christchurch said:

There was an earthquake on the 22nd February and my class was at QEII swimming pool when the earthquake struck. I was in the deep pool when everything went black and everyone was screaming and running. I was the last one out of the water. When we got outside we stayed together. (Hutchinson, 2010)

Another child, from the same school commented on his experience: “When the 6.3 earthquake happened I saw a big wave and the wave hit me and the wave hit the roof and then we got out” (Hutchinson, 2010).

As well as ongoing aftershocks, these events caused a cascade of stressors. Houses and other buildings were damaged and many families had to immediately vacate their homes. The city's infrastructure was compromised following each event to varying degrees. Immediately after the large events, power, water and phone lines were lost to many areas of the city. Some roads were impassable and many areas had significant amounts of liquefaction. Schools were closed for varying lengths of time and many families left the city. Piles of rubble, building demolitions and road closures served as constant reminders of the initial events.

In the wake of the Christchurch earthquakes there was an environment of uncertainty. Sullivan and Wong (2011) reported that ongoing tremors tested the tolerance of residents (Hawkins & Radcliffe, 2006). A report on the Christchurch earthquakes (Robinson, 2012) highlighted that school entry-level children (aged five years) were presenting with a range of concerning behaviours at school. The

behaviours referred to in the article included ‘lashing out’ at teachers, inattention during learning activities, truanting and aggression towards their peers. Sarah Robinson, a child and adolescent psychotherapist in Christchurch, stated that she was seeing “many young children who had been traumatised by the earthquakes”. The report stated that many young children in Christchurch were “displaying symptoms of PTSD”. However, children have the potential to bounce back after serious adversity (Robinson, 2012, p. 3).

Chapter 2

Review of the Literature: Children's Responses to Earthquakes

The Diagnostic and Statistical Manual 5 (DSM-5) also introduced the subtype, 'PTSD for children ages 6 years and younger'. Although PTSD was reported in children and adolescents and a variation in the expression of disorder in different age groups was acknowledged, the DSM-5 included this developmental subtype of PTSD – post- traumatic stress disorder in preschool children - for the first time (American Psychiatric Association, 2013).

The criteria for this subtype are behaviorally anchored and developmentally sensitive. The child has a history of exposure to a traumatic event, although the requirement for extreme distress at the time of the event has been deleted (this has also been deleted for the regular PTSD criteria).

The symptom detection threshold for intrusion symptoms is lower. The changes to avoidance symptoms and negative alterations in cognitions and mood are more significant. Only one symptom in cognitions and moods is required in either avoidance symptoms or negative alterations. Two symptoms, 'sense of a foreshortened future' and 'inability to recall an important aspect of the event', has been deleted. The wording of two symptoms, 'diminished interest in significant activities' and 'feelings of detachment or estrangement' has been modified for this subtype. A small change has been made to the increased arousal symptom in order to increase face validity.

If a child has had a history of emotional or behavioural problems, such as anxiety problems, a learning disorder or depression, they may have a higher risk of experiencing psychological problems following a disaster (Shaw et al., 2012).

Associated symptoms that traumatised children are likely to present with are generalised anxiety, depression, guilt, low self-esteem and generalised fears (Fletcher & Mash, 1996). PTSD has substantial co-morbidities with generalised anxiety, depression, social phobia and panic disorders. Symptoms of generalised anxiety, depression, social phobia and panic disorders have considerable overlap with PTSD symptoms. (Kessler et al., 1995).

Family features may be risk factors that influence the severity of PTSD symptoms. Children look to their parents as a model for how they respond, cope and behave. The reaction that a traumatic event such as an earthquake evokes in an adult, parent or teacher is a prototype for how a child will react. If an adult, for example, is composed and able to carry on as normal when a trauma occurs then the impact on the child will be noticeably diminished (Margolin, Ramos, & Guran, 2010).

Coping is the “conscious and volitional effort to regulate emotion, cognition, behavior, physiology and the environment in response to stressful events or circumstances” (Holen, Lervag, Waaktaar, & Ystgaard, 2012, p. 168). Coping categories include avoidance coping, reactive coping and positive coping (Comer, Furr, Beidas, Weiner, & Kendall, 2008).

Children who have low positive emotional reactivity are more likely to use avoidance coping strategies. Behaviour changes are associated with avoidance coping and include a decreased interest in activity, an altered sense of the future and repetitive play (Shaw et al., 2012). In addition, a child with reactive coping (oppositional coping) may experience emotional outbursts, become irritable or angry quickly and present other intrusive and avoidance behaviours (Holen et al., 2012).

Children can also display positive coping. Positive coping involves the ability to regulate emotions and actions. Positive coping is associated with problem solving,

relaxation and social and family supports (Holen et al., 2012; La Greca, Silverman, Lai, & Jaccard, 2010).

Learning is associated with the development of new competencies. However, in children with PTSD learning can be compromised by loss of concentration, intrusive thoughts and anxiety (Picou & Marshall, 2007; Shen & Sink, 2002). Sprung (2008) remarked that children with above-average IQ may have a far lower risk for PTSD. In addition, higher cognitive ability can be a buffer against the effects of traumatic stress. Children as young as 5 years old are sensitive to the concept that they are able to re-evoked emotions related to a traumatic event. However, it is not until the age of 8 that children begin to become aware of significant properties such as unintended, unwanted and disruptive.

Schools can enhance a child's connectedness (Ying, Wu, & Lin, 2012). The relationships children have with their teachers, peers, school counsellors and school psychologists are very important. Shaw and colleagues (2012) report that getting a school back to full operation as soon as possible is one of the most effective ways to help children after a disaster. Social support is often found in schools from the teachers, school counsellors, school psychologists and parents (Ying et al., 2012). A school can provide the support, interpersonal relationships and learning environment necessary to promote positive coping thus minimising the effect of a disaster (Shaw et al., 2012).

In contrast to children who experience PTSD and its symptoms, another group of children do not or if they do the symptoms are transient. These children are said to be resilient. According to Grotberg (2001) resilience involves coping with and being strengthened or transformed by adverse experiences such as disasters (Shaw et al., 2012). Studies of behavioural health and adaptation from a developmental perspective

have shown that despite the aetiology of serious mental disorders some children appear to develop well under risky conditions (Masten & Obradović, 2006).

Mastern (2012) summarises the point that when talking to children the questions used should encourage stories of coping, strength and positive emotions rather than focus on the trauma:

Resilience does not come from rare and special qualities but from the everyday magic of ordinary and normative human resources in the minds, brains and bodies of children, in their families, relationships and their communities. It follows that efforts to promote confidence and resilience of children at risk should focus on strategies that protect or restore the efficacy of these basic systems. (p.227)

Social connectedness has been shown to increase resilience. Social connectedness can be described as the number of connections an individual has with family members, friends and people in the wider community (McDermott et al., 2012). Boyden and Mann (2005) state that interpersonal relationships are essential to enable a child to cope with disaster situations. Supportive parents, family members and other adult figures are necessary to promote resilience.

Children are able to actively protect themselves in the face of adversity. Boyden and Mann (2005) reported that there were many protective attributes that could impact a child's resilience. A child with a sense of purpose, who frequently helps others (e.g. younger siblings), is likely to be better psychologically equipped after a disaster. If a child also has good problem solving and learning skills, and gets on well with others, they will also be better psychologically prepared (Boyden & Mann, 2005; Shaw et al., 2012).

A meta-analysis by Masten and Narayan (2012) studied the research on the effects of mass trauma experiences caused by natural disasters. They discussed different pathways of adaptive function after an 'acute-onset' traumatic event, which could include both maladaptive pathways and forms of resilience. One pathway included a delayed breakdown without recovery. Another maladaptive pathway included a delayed breakdown with recovery.

Stress resistance illustrated one pathway of resilience. Another resilience pathway included temporary breakdown with recovery. These researchers commented on protective factors that facilitated resilience. Among the most important protective factors cited for children following a disaster were functioning schools. Schools were a safe environment where children could learn and play.

Supporting peer interaction, re-establishing routines and connectedness with other adults and agencies could improve positive social attitudes and behaviours. The authors also commented on the need for additional research into methods and measures that worked across diverse cultures, evidence of effective interventions for child victims and about the literature covering long-term outcomes of disaster exposure.

There have been several studies that have reported PTSD in older children using the older criteria. Roussos and colleagues (2005) studied the effects of an earthquake centered in Ano Liosia, Greece with a magnitude of 5.9 on 7 September, 1999. About 3 months after the earthquake they recruited children aged from 9 to 18 years (N=1,685) and investigated the children's reports of their earthquake experiences and their PTSD symptoms. They also recruited a comparison group (N=252) from another city, Dafni, that was less affected by the same earthquake.

Data were gathered using structured standard screening instruments in the form of check-lists and self-rating scales. About 10% of the participants had a family member or close friend who died as a result of the earthquake. More than 50% of the participants from Ano Liosia reported that their homes were destroyed or damaged, compared with 10% of the participants from Dafni.

At the time of the study, 3 months after the earthquake, about 15% of the Ano Liosia group had difficulties with their living arrangements compared with about 5% of the comparison group. Intrusive thoughts were reported by 11.9% of the boys and 9% of the girls across both cities. In addition, family conflict was reported by 8.9% of participants in the most severely affected city compared with 3.5% in the comparison city. Based on the checklists, the researchers estimated that 4.5% of the participants in both cities were experiencing PTSD at a clinical level that was affecting their functioning. The researchers commented on the need for these participants to have access to interventions.

Another study, by Kolaitis and colleagues (2003), investigated the effects of the earthquake in Greece of 7 September 1999. About 6 months after the event they recruited 115 children and 115 mothers from a north-western suburb of Athens and a comparison group of 48 children and 36 mothers who were not affected by the earthquake. They investigated the children's reports of their PTSD symptoms. The researchers also completed a comparison of the earthquake experiences of mothers in an immigrant group and those in a native Greek group. Data were collected using self-administered questionnaires.

More than 75% of all the participants from the north-western suburb of Athens were at home with family when the earthquake occurred just after 2pm. About 70% of parents had a previous experience of earthquakes. Six months after the earthquake

about 78% of the north-western suburb group displayed PTSD symptoms. About 17% of all the children in this group were experiencing PTSD at a clinical level affecting their functioning. One of the main symptoms reported was difficulty concentrating. Measures of PTSD symptoms for the comparison group were not given. About 40% of the immigrant group evidently took longer to recover than the native group. More than 60% of the native group reported that they had become frightened immediately after the event but felt "cool" afterwards.

Ying, Wu and Lin (2012) studied the effects of the Wenchuan earthquake (measuring 8.0 on the Richter scale) on adolescents attending high school in one of the most severely affected areas. About 12 months after the earthquake they recruited participants (N=200) aged from 13 to 17 years and investigated their post-traumatic stress symptoms. Data were gathered using structured screening instruments in the form of check-lists and self-report scales.

At 12 months post-earthquake, 17.5% of all the participants were experiencing PTSD at a clinical level. At 18 months post earthquake, with 97% of the participants from time 1, 19% of the participants were experiencing PTSD at a clinical level. At 24 months post-earthquake, with 54% of the participants from time 1, 16.5% of the participants were still experiencing PTSD at a clinical level. The researchers commented on the need for access to school-based long-term psychological and developmental interventions for child-survivors of earthquakes. In addition, they recommended that school psychologists should be available for at least 36 months post-event.

After the earthquake in Armenia in 1988 Najarian and colleagues (1996) conducted a study to measure PTSD in children. They compared a group who were exposed to the earthquake and remained in the city (N=25) to a group of children who

relocated out of the city after the event (N=24). The first group remained in the city and lived in tents, trailers and later reconstructed houses. They attended school in purpose-built temporary buildings. The group that relocated, because their homes were destroyed, moved away immediately after the earthquake. They were still living and attending school there 30 months after the event.

Data were gathered using structured interviews and screening instruments in the form of check-lists and questionnaires. Teacher report forms were used to provide a profile of behavioral adjustment. Intrusive thoughts were reported by more than 90% of the participants across both cities. More than 40% of the children reported a diminished interest in activities. More than 50% of the group who remained in the city had difficulty sleeping compared with 80% of the relocated group. About 70% of the participants reported being quick to anger and more than 40% across both cities were having difficulty concentrating. Based on the interviews and check-lists the researchers estimated that 32% of the participants in both cities were experiencing PTSD.

The researchers commented that although the study was carried out 2.5 years after the earthquake there were still high rates of PTSD within both groups. The children who remained in the city did not experience higher levels of PTSD than those who relocated immediately after the event.

Another study, based on the 1988 earthquake in Armenia, by Pynoos and colleagues (1993) studied PTSD in children. They recruited participants aged from 8 to 16 years (N=231) from schools in 3 different cities which were located at varying distances from the earthquake's epicentre. The participants were interviewed and screened in schools for PTSD. Data were gathered using a self-report instrument and clinical assessment in the form of an interview. About 50% of the participants

reported that they had traumatic reminders, intrusive images and thoughts, and were easily startled - all strong predictors of PTSD.

More than 90% of the participants (N=47) from the city of Spitak, closest to the epicentre, met the DSM-III-R criteria for PTSD. About 70% of the participants (N=130) from Guri, a city further away from the epicentre, met the DSM-III-R criteria for PTSD. About 20% of the participants (N=54) from Yerevan (the furthest away from the epicentre) met the criteria for PTSD with more than 60% experiencing moderate levels of PTSD symptoms. The researchers discussed the impact of disasters on a society when the entire child population was severely affected.

Bal (2008) investigated the risk factors of PTSD in survivors 3 years after a 1999 earthquake centered in Marama, Turkey, with a magnitude of 7.4. Three years after the earthquake Bal recruited participants aged from 8 to 15 years (N=293), who would have been aged from 5 to 13 years at the time of the earthquake. Bal studied participants' scores of PTSD in relation to their earthquake exposure and gender.

Data were gathered using standard screening instruments in the form of a semi-structured interview and self-report questionnaire. Demographic information was obtained from the participants' school records. About 60% of all the participants had PTSD at a clinical level affecting their functioning from the first measure. About 90% of all the participants were experiencing mild, moderate, severe or very severe levels of PTSD symptoms from the second measure. More females reported PTSD symptoms than males on both measures. Bal commented on the need for more studies focusing on child-survivors of natural disasters and long-term PTSD.

In May of 2006 central Java in Indonesia had an earthquake with a magnitude of 6.3 and research was undertaken by Widyatmoko and colleagues (2011) 30 months

after the earthquake. They recruited children aged from 6-14 years (N=3,115) and investigated the teachers' reports of the children's behavioural problems and PTSD symptoms 2 years after the event. The study used a brief assessment tool and an open-ended qualitative questionnaire asking the teachers about their students. Teachers were the primary informants.

PTSD rates from individual schools ranged from about 1-20% for participants identified as showing problematic behaviours. More than 40% of the participants had school problems consistent with PTSD symptoms. About 20% had externalising behaviours and withdrawal symptoms and about 10% had been clingy to adults after the event. This study identified that teachers can be a useful source of information about culturally specific forms of distress in children.

On 17 August 1999 an earthquake hit north-west Turkey with a magnitude of 7.4. Bulut and Tayli (2005) studied the effects of this earthquake which left more than 500,000 people homeless. About 11 months after the earthquake they recruited children aged 9 years (N=300) and examined the effect of the 2 main earthquakes and the many aftershocks on school children. The participants were grouped in two categories: high-impact/trauma group (N=200) and low impact/ comparison group (N=100). Data were collected using an assessment instrument for PTSD which was administered in the children's classrooms. About 25% of the participants in the first group had severe or very severe PTSD as compared to 20% of the participants in the second group. PTSD symptoms were reported by about 70% of the participants across both groups. The researchers commented on the number of residents who were forced to relocate and suffered a loss of community and social support. The researchers also commented on the major impact on children.

Uemoto and colleagues (2011) studied the effects of the 1995 earthquake

centered in Kobe, Japan, with a magnitude of 7.2. About 4 months after the earthquake they recruited children aged 7 to 14 years (N=8,800) and carried out a systematic enquiry on children's self-reports of their earthquake experiences and varying levels of trauma. After 4 months more than 40% of the children aged 7 to 9 years reported fear and anxiety symptoms. About 30-40% of the participants aged 10 to 14 years reported fear and anxiety symptoms. These researchers reported concern about the long-lasting impacts following earthquakes.

Endo and colleagues (2007) reported the effects of a 2004 earthquake with a magnitude of 6.8 in Niigata- Chuetsu, Japan. About 5 months after the earthquake they recruited children aged from approximately 5 to 12 years (N=756). This study investigated behavioural changes related to PTSD in children who had experienced the event.

Intrusive thoughts and hyper-vigilance were the most commonly reported symptoms by parents via questionnaires. Severe behavioural changes were found in more than 40% of the preschool children aged 5 to 7 years. About 20% of older children had behavioural changes. The researcher reported that these changes in children's behaviour might not improve over time and might cause serious longer term impacts if left unaddressed.

Proctor and colleagues (2007) studied the effects of the 1994 earthquake with a magnitude of 6.7 in Northridge, USA. About 8 months after the event they recruited families with children aged 4 to 5 years (3-6 years at the time of the earthquake, (N=117) and investigated the children's distress and the influence of family context.

Data were gathered by using an earthquake impact survey designed for the mothers. About 60% of the mothers reported damage to their home as a result of the earthquake. More than 40% of participants reported earthquake related financial

problems and about 20% of children were dislocated from schools in the weeks following the event. About 8 months after the earthquake more than 70% of children were experiencing anxiety and presented symptoms of distress. The researchers recommended that following such an event it was important to view the situation through the children's eyes and acknowledge their feelings.

Earthquake studies have also identified that the severity of PTSD symptoms can be affected by gender and age. Researchers have studied gender and propensity for PTSD symptoms. They found that females (girls) were more likely to experience mood problems, such as anxiety and depression symptoms post-disaster (Bal, 2008; Green et al., 1994; Hoven et al., 2005; Lengua, Long, Smith, & Meltzoff, 2005). Females were also more likely to be open and talk about their feelings with others.

In a study by Osman, Hornblow, Macleod, and Coope (2012) females were significantly more anxious than males following a traumatic event. Other studies have also indicated that females were more likely than males to experience anxiety (Goenjian et al., 2000; Punamäki, Komproe, Qouta, Elmasri, & de Jong, 2005). Males were likely to present severe behaviour problems such as aggression and anti-social behaviour (Enarson, Fothergill, & Peek, 2007; Gurian & Kamboukus, 2006). Some studies have found no relationship between gender and PTSD post-disaster (Jeney-Gammon, Daugherty, Finch Jr, Belter, & Foster, 1993).

Summary and Limitations of Earthquake studies

Overall there has been a lack of consistent reporting of PTSD and its symptoms. Some studies reported symptoms but not rates using standardised cut-offs (McDermott et al., 2012; Uemoto et al., 2011). Eleven studies of children with PTSD

symptoms indicated that the number of children who had PTSD ranged from 4.5 to 73.2%. It was not known when PTSD symptoms began to abate. This was another limitation.

Young children were more likely to develop PTSD than older children (Shannon, Lonigan, Finch Jr, & Taylor, 1994). Studies have also shown that the number of children who experienced PTSD symptoms was higher for the group with an average age below 7 years (Endo et al., 2007). Uemoto et al (2011) also reported that the age of a child at the time of the disaster was a factor for increased vulnerability to PTSD in the Kobe earthquake. The younger the age the more likely a child would experience more severe PTSD symptoms post-earthquake than older children (Shannon et al., 1994).

The studies did not discuss children who did not have PTSD (Shaw et al., 2012). Even when considering the highest prevalence, for example, there might be 10-33% of children who did not experience PTSD. The studies reviewed did not consider these children and little appears to be known about these children.

Children's Voices

Hughes (1988) highlights:

If knowing the child's point of views is important, the interview is unsurpassed as a technique for obtaining information. If an adult wants to know what or how the child is feeling or thinking, the adult must ask the child. (p. 136)

There are many ways of obtaining information about children's experiences of disasters. However, the most ideal way is to obtain this information from the children themselves.

Some studies have used children's voices. The 1999 Turkey earthquake studied by Bulut and Tayli (2005) was also studied by Oncu and Wise (2010). Oncu and Wise (2010) studied the effects of the earthquake on young children. This study was exploratory and the children in this study were attending preschool at the time of the disaster. They also recruited a comparison group from another area who had not experienced the disaster.

About 20 months after the event the researchers assessed the types of negative and positive behaviour the young children presented in response to stressful situations. Data were gathered by using children's short stories followed by questions for the children to answer. General themes or emotions that emerged included distressed, scared, shaken, upset and angry as opposed to caring for and helping others.

An example of the negative reactions given by one child was: "Kitty got really scared; ant was afraid of the loud machine; kitty could not read his/her book; everything got dark". An example of the positive reactions given by one child: "went to look for siblings, rescued friends, and brought food for others".

About 20 months after the event children who were directly affected by the earthquake were still suffering from trauma. The researchers indicated that the children who were directly affected were more likely to finish the stories with a negative ending and have negative thoughts.

In a study conducted by Bateman, Danby and Howard (2013) researchers studied how teachers communicated with children following the earthquakes in

Christchurch. About 9 months after the 22 February 2011 earthquake they recruited 7 early childhood teachers and 52 children aged from 3 to 4 years. Data were gathered using 5 video recordings during the mornings of one week (total of 8 hours and 21 minutes). Many children spoke in everyday conversation with the teachers about their personal experiences of the earthquakes. Children spoke about broken roads while others talked about the roads being fixed. The researchers commented on the need for early childhood teachers to support children in their natural environment by facilitating play, story-telling and everyday talk.

Fothergill and Peek (2006) studied children who experienced Hurricane Katrina in 2005 in New Orleans, USA. The researchers recruited 38 children from cities near the main disaster zone.

Data were gathered through participant observation, focus groups, interviews with parents, grandparents, teachers and other leaders. One mother who was staying in a shelter spoke of how her son, who was 4 years old, wanted his life to go back to how it was before the hurricane and would ask after his family daily: "I'm ready to go back home now, call my sister, call my brother, where's my aunt?" Another mother told researchers how her son, who was 5 years old, had a deep understanding of what was going on, "some of my friends won't be able to come back because their parents lost their jobs and their homes got destroyed".

In contrast a mother told of how her son had blossomed since moving after the traumatic event: "He's actually done wonderful changes here...he's using bigger words, larger words. I mean he's just blossoming, educationally wise, mentally wise...the intelligence level of the people that go to this church, that come through here, it's amazing. I mean, I don't know if it was getting out of New Orleans".

In addition, two key themes that children used as support systems throughout the crisis were maintaining and relying on friendships and helping others. The researchers commented that although children were vulnerable and needed help from adults they also had the capacity to be resilient and the ability to find ways to cope.

Shaban and Al-Awidi (2013) worked on understanding children's drawings in the United Arab Emirates. They recruited children aged from 4 to 5 years (N=25) who had not experienced a natural or other disaster. Data were gathered using semi-structured interviews and children's drawings. Data were analysed using a phenomenological procedure to unfold the meaning of structures developed through the participants' experience.

The researchers identified key themes found in the children's drawings: family, the park and their home. A child who drew a picture of her family said, "I love my family, I feel so happy when I draw my family". Another child drew a picture of a monster and said, "I drew it so it can eat you and then will go home". The researchers commented that spontaneous drawings were a helpful way to understand children's interest in subjects. Some of the children's drawings also represented traditional and cultural ideas.

Limitations

There are few studies that use children's voices to investigate their experiences of a disaster and only a few of these studies look at coping after a disaster. The researchers found few voices that demonstrated resilience (Fothergill & Peek, 2006). Although it is ethically difficult to talk to children about disasters without re-traumatising them more research is needed to understand children's resilience (Shaw et al, 2013). To achieve this we need to believe that children are not

helpless and dependent on adults. When in a supportive learning environment they can cope and be resilient (Boyden & Mann, 2005, p. 19).

Children aged between 5 and 6 years face many new situations and change. In New Zealand children start school on their fifth birthday. This involves academic, social and emotional change. Children learn to read, how to interact with peers and communicate with other adults (teachers). There are also physical and developmental changes occurring at this important age. In addition, Gutteling, Weerth and Buitelaar (2005) discussed the significance of starting school. This transition in the life of a child could be stressful in its own right. It was important to understand the child's coping from the child's perspective.

The purpose of this study

The purpose of this study was to explore the coping and learning of children who experienced the earthquakes as they were starting primary school.

New Zealand is a bi-cultural country; a position that reflects a partnership agreement (the Treaty of Waitangi) signed in 1840 between the British Crown and Māori, the indigenous people of this country. Māori worldview perspectives need to be explored in order to have a greater understanding of how Māori children and their whānau (family) have responded to the earthquakes, and how they viewed their well-being. Therefore, in addition to the western notion of PTSD and resilience, a kaupapa Māori perspective of well-being was considered. The next chapter of this thesis explores a Māori worldview and the particular concepts and beliefs that underpin this unique perspective in regard to well-being and resilience.

Chapter 3

Māori concepts of resilience

Conventional definitions of resilience regularly refer to the ways in which people respond to difficult and challenging situations, whether these situations occur as a result of a one-off event or a series of events. To study resilience the researcher needs to examine a young person's whole environment and explore how they perceive themselves within the context of their whānau/ family, their social bonds/ relationships with peers and friends, and how they experience and interact with their communities (Jansen et al., 2010).

It has been proposed that the concept of resilience from a Māori perspective is one that contributes to Māori 'endurance' (Durie, 2005). Durie discusses the notion that resilience is a "testimony to progress" and "an expression of the effort needed to steer a steady course" (p.26). He further describes Māori concepts of resilience as having strength of purpose and the capacity to adapt and achieve in the face of continuing adversity.

In many ways the Māori concept of resilience does not regard it as simply the result of a one-off event or indeed a series of disconnected events that may immediately threaten daily life. Resilience is predominantly viewed by many Māori as an element of living in a colonising and contemporary society. Durie prefers to talk about the notion of a collective response to resilience as it develops, and believes that Māori have manifested resilience in this way as a means of facing ongoing and enduring adversity. He declares that for Māori it is about achieving tino rangatiratanga (autonomy).

For the purposes of this study resilience and PTSD are investigated in the context of the Canterbury earthquakes. To that end it is necessary to consider how Māori concepts of and responses to these particular events have been precursors to how Māori have displayed resilience and managed PTSD.

When looking at Māori concepts of resilience two highlighted cultural markers are cultural identity and cultural connections (Durie, 2005). Traditional markers of Māori cultural identity also include te reo Māori (the Māori language) and links to a person's marae. Māori cultural identity is maintained and even enhanced when interactions with others are reflective of core cultural values, beliefs and behaviours. Having a positive cultural identity is an enabler for a range of positive life outcomes such as good health and well-being. The second cultural marker (cultural connections) is associated with membership of a whānau, hapū (sub-tribe) and iwi (tribal community) which is regarded as very important. Cultural ideals ensure that these connections are maintained in order that they remain secure and accessible (Durie, 2005).

Māori Worldview and Resilience

The contemporary metaphor for resilience suggests the ability of an individual to return to an original state after being stressed, perturbed or otherwise negatively impacted (Kirmayer, Dandeneau, Marshall, Phillips, & Williamson, 2011). This statement creates an interesting dilemma in terms of what it might mean for Māori. The notions of collective responsibility, belonging to a group and obligations to the group are fundamental and very important to Māori. Therefore the concept of resilience is primarily defined by Māori in terms of worldview perceptions specific to community, group identity and well-being.

There are many distinctive perceptions of resilience among indigenous people globally. One particular example defines resilience as responding to challenges with dignity, resourcefulness and hope. Another defines resilience as the perseverance and willingness to carry on in the face of setbacks and “to harness their resourcefulness for the betterment of their family and community” (Kirmayer et al., 2011). Edwards et al. (2008) describe resilience as the capability of systems and the individual to flourish after a significant negative event. Spirituality and family strength also appear to be important factors when encompassing the positive resources of indigenous Canadian communities.

According to Lalonde (2006) resilience is a process that involves connections between families, neighbourhoods and wider social cultural environments. To that end it is useful to consider resilience at a collective (cultural) rather than an individual level when considering this notion from an indigenous perspective (Lalonde, 2006). For many Māori it is likely that resilient whānau are those who have access to naturally occurring supports and resources, which include whānau (particularly extended whānau), and links to their marae and community (Dr Gifford, 2010).

A Māori worldview and well-being is shaped by the sense of group identity and community belonging. This belief is supported by the following whakataukī (proverb);

Ehara taku toa i te toa takitahi,
engari he toa takitini

I come not with my own strengths

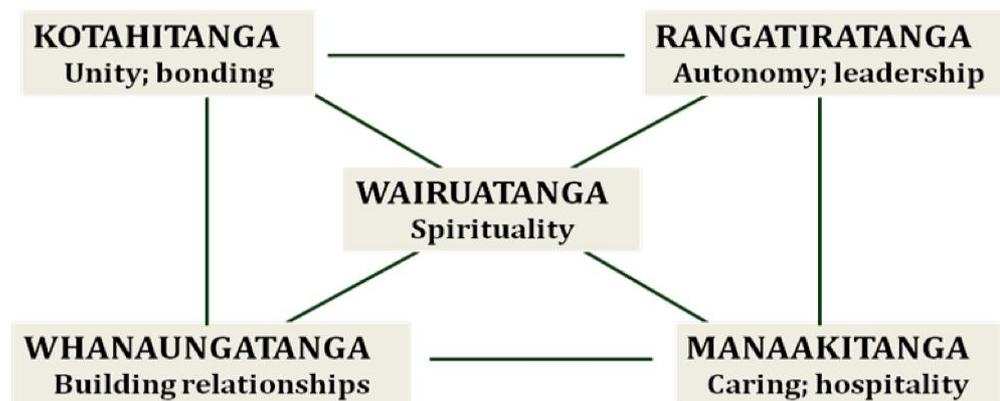
but bring with me gifts, talents and strengths of my family, tribe and ancestors.

This whakataukī represents the construct of the tamaiti (child) as a learner at the core, and depicts the notion of an enveloping and multi-layered system. These layers

outwardly extend to include whānau, hapū and iwi. This representation validates community knowledge and locates learning within the realms of the past, present and future while whānau, hapū and iwi draw from both te ao Māori (the Māori world) and te ao Pākehā (the Pākehā world). Māori cultural values, understandings and epistemologies are significant factors that underpin what Māori deem to be key constructs of each tamaiti Rameka (2003, January).

According to Bevan-Brown (1994) our culture determines the way we think, feel and behave. It can also determine our attitudes about managing challenges and crises, the way we then approach and respond to these and what we perceive well-being to be. Phinney and Rotheram (1987) share a similar view by declaring that there are culturally linked ways of thinking, feeling and acting which are acquired through socialisation.

Whakapapa (genealogy/ blood ties) is the basis of being Māori. In Figure 1, Ritchie (1992) has outlined the five commonly agreed Māori cultural principles that define a Māori worldview. Many other cultures also value these principles. However, Māori have repeatedly declared these values to be of significance in defining, guiding and maintaining the social parameters and interactions that occur when they come together.



Ritchie, J. (1992). *Becoming Bicultural*, Wellington: Huia Publications

Figure 2: Māori Worldview Principles (Ritchie, 1992)

The Māori worldview principles depicted in Figure 1 are: kotahitanga defined as ‘bonding’ and ‘unity’; rangatiratanga defined as ‘self-management’ and ‘self determination’; whanaungatanga as ‘building’ and ‘maintaining relationships’; manaakitanga as ‘the ethic of care and hospitality’; and wairuatanga defined as ‘spiritual essence’.

The 5 principles are visibly instantiated when Māori come together at the marae or at events like tangihanga (funerals), hui (meetings), and waananga (learning contexts). In addition there are several key concepts that are regularly found alongside the 5 principles. These are: mana (dignity/worth); tapu (sacredness/ off limits); noa (righting / fixing); tika (fairness/ justice); pono (integrity / honesty); and aroha (acceptance/ compassion). These concepts serve to exemplify and maintain the 5 principles.

The Māori holistic worldview is often described as the state where ‘body, mind and spirit’ are interlinked to create the concept of ‘wholeness’. In Figure 3 (Irwin, 1984) illustrates the concept of ‘wholeness’ and ‘loss of wholeness’ with a complete and and incomplete triangle.

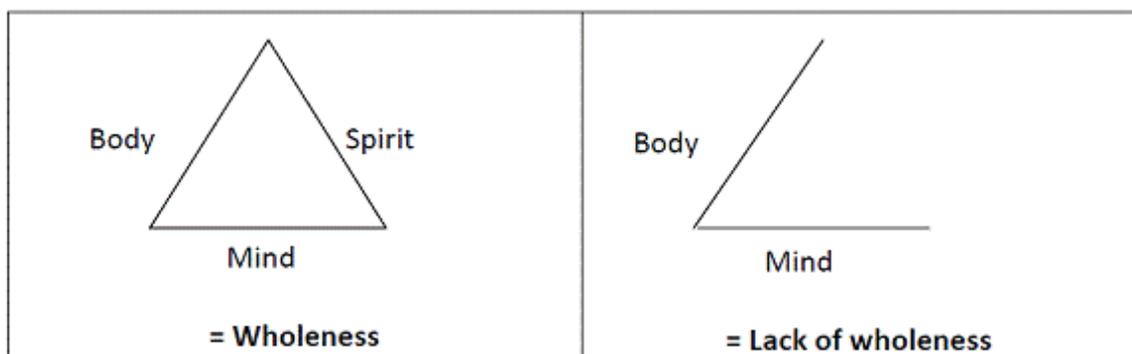


Figure 3: A Depiction of Wholeness (Irwin, 1984)

Irwin's (Irwin, 1984) model has been developed further by Durie (Durie, 1994) in Figure 4. Durie's triangular representation has been replaced with a four-sided figure that incorporates the concept of whānau. This model, Te Whare Tapa Whā, is based on the 4 walls of a house with each side complementing the others to ensure strength and balance. Each wall represents a complementary dimension of well-being: taha wairua (spiritual); taha hinengaro (psychological); taha tinana (physical); and taha whānau (familial / relational).

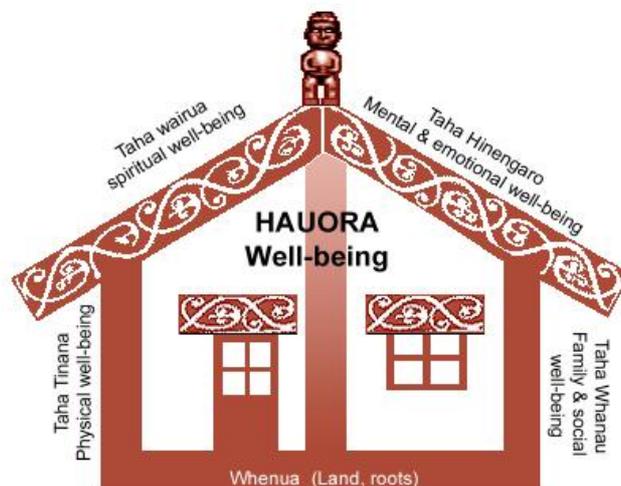


Figure 4: A Māori depiction of Wholeness (Durie, 1994)

The Māori cultural perspective of wholism is supported by the following statement by Macfarlane (2005) who sees this as, “a refusal to treat the different aspects of a person separately, but rather, a preference to look at the ‘whole’ person - to look wider”. Māori culture is often described as reflecting ecological perspectives. Figure 5 below (Macfarlane, Glynn, Grace, Penetito, & Bateman, 2008) shows the ecology of belonging and well-being. An inclusive approach is good practice because when a situation becomes severe it is essential that the ecology of engagement and intervention becomes broader.

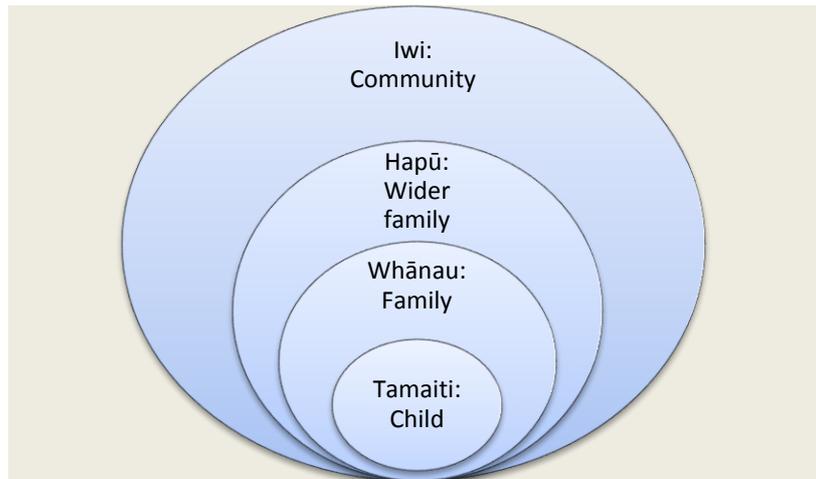


Figure 5: The ecology of belonging and well-being (Macfarlane et al., 2008)

The Māori concept of nested resilience also comprises multiple layers (concentric circles) depicting the widening concept of resilience that extends from the tamaiti to whānau, then to the extended whānau and finally to the community. There are multi-layered markers of identity and connections that must also be considered in order to understand Māori identities (Ministry of Women's Affairs, 2012). This model (Figure 6) by Lambert depicts: individual resilience when personal outcomes are determined by knowledge, skill and emotional strength; whānau resilience when whānau size, assets, connections and income promote resilience; neighbourhood resilience including features such as location and infrastructure; and community resilience (similar to whānau resilience) when size, status of assets and resourcing promote resilience. National resilience found in the outer concentric circle includes national disaster management, the infrastructure of a whole city and political stability.

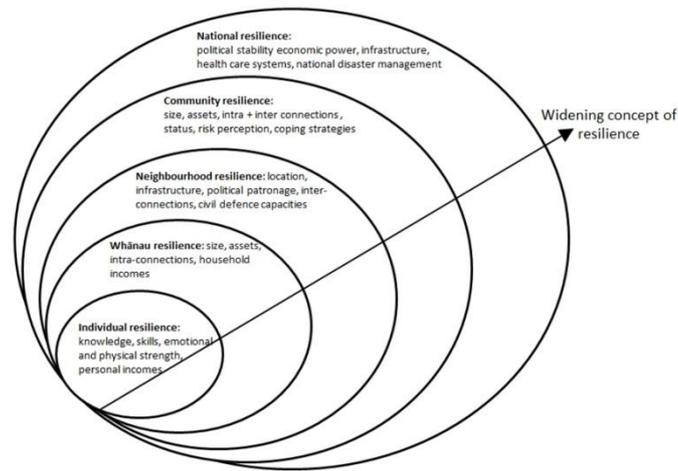


Figure 6: Māori concept of nested resilience

In addition to these concentric diagrams (Figures 5 & 6) the Positive Youth Development in Aotearoa alludes to the concept of communities made up of invisible threads (Jansen et al., 2010). This concept relies on the relationships that people have with each other which, during a time of need, pull together. These people may be from local schools, churches, marae, hapū or the neighbourhood. Communities have the capacity to be connected and relational, and to have spiritual resources that create health and well-being, no matter what adversity they may face (Jansen et al., 2010).

Māori Perspectives of Resilience and PTSD

In essence, by defining what well-being is (ie: Te Whare Tapa Whā) it is possible to identify what it is to be out of balance and in need of a response. For Māori the notion of being ‘out of balance’ is when something specific to a person’s (Te Whare Tapa Whā) ‘wholeness’ is lacking, languishing or in need of replenishment. Rather than labelling an individual as someone who is exhibiting PTSD symptoms, a Māori approach considers the holistic dimensions of well-being and observes which is (or are) out of balance, or has been affected in a negative way and therefore needs attention.

Culture influences the way people think, feel and behave (Rotheram-Borus & Phinney, 1987). Māori perspectives of resilience and PTSD are defined more holistically and are therefore responded to in a more ecological way. Bevan- Brown concurs that ‘culture’ determines the way Māori think, feel and behave. It can also determine the perception of special needs, attitudes about these needs and the way they are managed or responded to. In Māori culture, for example, no distinction is made between people on the basis of their abilities or disabilities (Wilkie, 1999). Therefore it is likely that the generic concept of well-being is used as a reference point in order to determine if someone is or is not coping.

Rather than labelling a tamaiti with terms such as PTSD the interpretation is more likely to be expressed as a temporary imbalance in the child’s overall health and well-being. In addition, there may be less focus on perceived problems and deficits and more on striving for balance and solutions within the environment and community.

A Māori worldview perspective of resilience clearly influences aspects and interpretations of coping and recovery for Māori tamariki/ learners. Resilience is defined more within the overall concept of well-being. It may therefore be necessary in this study to reframe a question that asks: “How resilient is the tamaiti?” to one that enquires: “How is the well-being of the tamaiti?”

Social Connectedness Research

After the series of earthquakes across Otautahi (Christchurch) during 2010 and 2011, it is important to consider how an individual, community and a society respond and recover in such an environment. It has become clear that a two-way directional (and collective) response from Māori has occurred. This has meant that many Māori

from outside the local community have responded immediately by either calling their own people back to the safety of their homes and communities outside of Christchurch, or by arriving in Christchurch en masse and working collectively to help their hosts support Māori who are domiciled here. Interestingly, both of these approaches have been fuelled by a desire to alleviate the enduring pain that continues to be felt for many generations following significant historical disasters (such as the Tarawera eruption; the Tangiwai accident, etc.).

Ngā tapuwae o mua, mō muri;

Footsteps of the past informing the future.

The future is unknown so for many Māori it is important to draw from what is in front of them – what they face - which also means drawing from their past and their ancestors. These inform what is behind them and therefore what lies ahead.

Metaphorically, many Māori walk with their back to the future facing and remembering the richness and histories of the past. Historical disasters are remembered as strong motivators including the obligation to help others in times of need. For many Māori it is important to draw from the lessons of the past; giving back and showing reciprocity. An example of this reported by Lambert and colleagues (2012) was that many Māori tamariki were uplifted to safer places by their whānau. They were moved to the North Island, where extended whānau lived, to be nurtured and for their well-being to be restored. In many of these situations there was no limit to who could come and stay, and in many situations mattresses were laid out to accommodate everyone who needed a bed.

The two-way movement also resulted in several iwi contingents arriving to offer their services and support. The Waikato iwi of Tainui sent 40 people, Te Arawa iwi sent several health professionals and a contingent of Hawaiian volunteers arrived

shortly after the earthquake to “lighten the burden of their hosts (Ngāi Tahu)”. It was stated that this was a way of expressing solidarity with their Polynesian ohana (family) during this painful time (Fairfax NZ News, 2011).

Following the earthquakes it was noticeable that stress levels increased for many people. Data on school enrolments indicated that Māori tamariki moved schools, primarily out of Canterbury, at 3 to 5 times the rate of their Pākehā counterparts (Lambert & Mark-Shadbolt, 2012). Given the bi-cultural context of schools and classrooms in New Zealand it was therefore deemed important to adopt a methodological approach to this research that enabled Māori cultural perspectives to be acknowledged and included in the study.

Chapter 4

Method

This chapter describes the methodology and method used in this study.

“Research methodology is a rational articulation of performances by individual scientists” (Wertz, Charmaz, & McMullen, 2011, p. 15). The methodology that is adopted for a research study is therefore very significant, as it not only determines the method(s) used but also influences the outcome(s) of the study in terms of how the information is gathered and analysed. These statements highlight the importance of adopting methodologies that listen and respond to the ‘matter’ under investigation.

Qualitative research methods have made a highly original contribution to the development of psychology studies over the last 100 years. Many eminent researchers such as William James, Sigmund Freud, Jean Piaget, Lawrence Kohlberg, Abraham Maslow, as well as Nobel Prize awardees Herbert Simon and Daniel Kahneman, used this research method (Wertz et al., 2011). The “qualitative revolution” that has developed since the early 1970s has seen an increase in the presence of qualitative methods used across education, research and professional settings (Wertz et al., 2011).

Qualitative research is a methodology with a strong focus on the question of “what?” Therefore, in order to know what something entails a conceptualisation of the ‘matter’ under investigation is needed (Wertz et al., 2011). This conceptualisation must consider the ‘matter’ as a whole – in a holistic way. Qualitative research may also look at the context, the significance of the consequences or outcomes of what is studied and how these are placed in the larger world (Wertz et al., 2011).

This research study took into consideration the context and environment that are critical in the development and growth of a child (Lewis, Osofsky, & Moore,

1997; Rameka, 2003, January). The purpose of this study was to begin to describe how children perceived helping their friends, family and themselves, caring for their friends, family and themselves as well as how they were learning in school after a natural disaster. One of the key stressors for the children in this study was the effect of earthquakes which was a major part of the context and environment.

The enquiry is a qualitative descriptive study in which the children's own words have been recorded during interviews, and subsequently analysed (Sandelowski, 2000). Low-inference interpretations of what the children say have been applied. Quantitative data provided by the teacher have been drawn on including information specific to each child's levels of coping and stress as well as particular demographic factors. All of this information has been used to augment and clarify what the children expressed during their interviews.

Descriptive qualitative design has enabled the personal and social experiences of the children to be explored, described and interpreted. During the interview session, "what" questions were asked with enough time provided for the children to explore their ideas. Information gathered while working with the children prior to the interviews has been drawn on to understand what was said in the interviews.

Descriptive qualitative design therefore allows for interpretations to be made of what the children have said, for the children's own view of the world or their own frames of reference to emanate, and for a hypothesis to be discovered (Smith, Taylor, & Gollop, 2000). This contrasts with other types of research where large samples are tested and used as evidence to support a preconceived hypothesis.

Some researchers suggest that parents and caregivers may underestimate the effects of trauma on children, which is significant as many research studies highlight the adverse effects of trauma on children's emotional health and well-being. This

research study, focusing on children's voices (Smith et al., 2000), favours direct reports from the children; reporting directly what the children said (Oncu & Wise, 2010). It supports the importance of using a methodology that is not accompanied by a preconceived hypothesis and rather lets the 'data speak'.

In support of letting the 'data speak' the study used low-inference interpretations of what the children said during their interviews. Descriptive qualitative analysis was applied to the children's responses to a series of open-ended questions. This is an approach used by Lawrence Kohlberg who was involved in legitimising qualitative research (James, 2012). The study design (qualitative analysis) involves the researcher selecting and emphasising empirical consistencies which "can be coherently interpreted" (James, 2012, p. 38). It requires the researcher to be open to revising and reforming the principles of observation and interpretation as new empirical patterns emerge (James, 2012).

Kohlberg showcased in his study (2009) the qualitative approach and noticed a number of important responses that emanated across the cohort of children involved. These responses were clustered together across children of different ages and classes. He collected the data by way of tape recording sessions, both individual and group, where real-life social situations were used to illuminate moral ideas. Kohlberg documented in detail the steps of his research and used direct quotations from his participants when illustrating his findings (Kohlberg, 2009).

Ethical Approval

This study was granted ethical approval by the University of Canterbury Educational Research Human Ethics Committee (application number: 2012/36/ERHEC). The school principal, teacher, parents and children all consented

to participate and follow the approved procedures.

Setting

The school was located in an eastern suburb of Christchurch, an area that sustained significant destruction during the impact stages of the earthquakes. It had a role of 177 and there were 7 classrooms. This study took place in the new entrant classroom, also called the reception class. The classroom was a large, sunny room that led out onto the playground. It had a spacious cloakroom next to a small reading room with large windows. All of the interviews took place in this reading room. All the children in the class participated in the interviews.

Participants

The 17 children in the study comprised 10 boys and 7 girls. At the time of the interviews the children ranged in age from 62 months to 67 months. They had been at school about 2 to 3 months and had entered school during the first school term. The study was conducted at the start of term 2.

All of the children came from homes where English was the primary language. Six children were New Zealand European and 4 children identified as New Zealand Māori. Three children were New Zealand Māori-New Zealand European and 4 children were New Zealand Māori-Samoan.

The teacher reported on the children's behaviour using two check-lists. The Positive Behaviour Scale was designed to measure emotional and social competence in children (Epps, Park, Huston, & Ripke, 2003). The behaviours rated in the Positive behaviour check-list overlapped with concepts of resilience, such as "is cheerful, happy", "can get over being upset quickly", "gets along well with people (his/her

age”, “is admired and well-liked by other people (his/her) age” and “is helpful to others” (Boyden & Mann, 2005; Epps et al., 2003; McDermott et al., 2012).

A 5-point Likert scale was used by the teachers to rate each behaviour (e.g. 1 = not at all like this child and 5 = totally like this child). The 10 items produced scores ranging from 10 to 50. Teachers also completed the Behaviour Problem Index (Peterson & Zill, 1986). The behaviours overlapped with symptoms of PTSD and negative coping, such as difficulty concentrating, clingy, too anxious, quick to anger, restless and expressing obsessive thoughts (Kessler et al., 1995; Van der Kolk, 1996). In addition, a space was provided on the check-list form for open-ended comments made by the teacher about how the child had settled into school.

Teacher reports of symptoms were used in other studies of children (...). The teacher’s completion of these check-lists was part of another study in which the school was taking part. Ethical approval for sharing of this information was obtained from the ERHEC, and then the teacher, parents and children gave their consent prior to the study interviews.

A three-point scale was used to rate how true the 26 behavioural definitions were (i.e. 0 = not true, 1 = sometimes true, 2 = often true). Scores ranged from 0 to 52, but the median for 5 year olds is 0 (Panel Study of Income Dynamics, 2010). The teacher reports were given to the researcher after the interviews were conducted, so that the children’s scores on these check-lists were not known when the children were interviewed.

The Interview Questions

The researcher designed the interview questions. The questions were open-ended and specifically designed for children (UNICEF, 2001). Each child’s interview consisted of 3 main questions and 4 or 5 potential follow-up questions. An example of

a main questions was: ‘What can you tell me about helping?’ Each child's interview included questions about helping (‘what can you tell me about helping your friends, your teacher, yourself?’); caring for others (‘what can you tell me about caring for your friends/teacher/yourself’) and learning (‘what can you tell me about when/how you learn best? your friends learn? when you and your friends learn together?’). A follow-up to any of the questions could be ‘tell me more about that’.

The classroom teacher reviewed and approved the questions prior to the interviews. During the interviews the children were not asked about their experiences of earthquakes. The ethics of avoiding anything that would upset the children or generate reminders were implemented in order to avoid any possible re-traumatisation (Van der Kolk, 2005). This was also done to protect the children’s mental health, to promote helpful thinking and to promote more optimistic patterns of thought. However, the researcher listened to the children’s stories of what happened and respected the children’s expressions of fear and anxiety (Shaw et al., 2012).

Procedure

Before interviews were conducted with the children, the researcher participated in the classroom for 2 weeks. The researcher helped the children with reading and writing. She also helped the children with their school work, observed the language they used, their communication with other children and their behaviour. This was to enable the researcher to get to know the children and for the children to get to know her. Before the interviews began the children were comfortable with the researcher. The researcher attempted to minimize social referencing by reducing the her power (Smith et al., 2000) through developing a good rapport with each student

over time. The researcher also expressed her genuine desire to listen to what each child had to say.

Each child was taken to the reading room and sat down at a small table for the interview. The researcher remained with the child during the procedure. She said to each child:

“Now, I am going to ask you some questions one at a time. Please listen carefully to the question. You can take as long as you want to answer. If you have a question you can ask me”.

The interviews were audio-recorded and lasted between 10-15 minutes. Some children had lots to talk about while others did not wish to talk as much. Each child was asked about helping, caring and learning, and was allowed to draw a picture if they wanted to. The child described what was represented in their drawing. The researcher labeled the components of the drawing on the drawing itself during the interview and checked with the child for accuracy. The child’s interview was audio-recorded using a Sony stereo IC recorder. The audio- recordings were transcribed at the end of each interview, and the researcher made notes on any non-verbal communication and behaviour of the child during the interview. Each interview was saved and printed and the data were analysed using a qualitative descriptive procedure.

Chapter 5

Results

The recordings were transcribed each afternoon after the interviews were concluded. Names of the child, family members, pets and friends were replaced by pseudonyms. Seventeen children, all of the participants, completed the interviews. Eleven children drew pictures including Ross who drew 2 pictures.

Transcriptions were completed by the researcher and checked by one of the supervisors (Dr. Macfarlane). The transcripts were edited to remove hesitations and repetitions. The findings were categorised into the following 2 groups: stories about helping and caring, and stories about learning. This framework was based on the questions and the child's responses from the interview. When sorting the data the researcher examined the child's responses, and then his/her drawing if he/she had sketched one. The child's PTSD symptoms and level of social support were summarised from the teacher reports. These were integrated with the researcher's descriptions of the interview to provide a detailed description of each child's interview and voice.

Child Interviews and Voices

Billy. Billy is a lively New Zealand European and NZ Māori boy. The teacher reported that Billy had reactive coping (lies; bullies others; disobedient; not sorry after misbehaves). He also had symptoms of PTSD (often difficulty concentrating; impulsive; restless; irritable; dependent; argumentative). Billy had lower social support (i.e. rated 3 out of 5 for liked by others). In addition, the teacher reported that Billy was unsettled, restless and frequently disturbed the class. However, Billy was very eager to talk in the interview.

When he was asked the questions about helping others he said that helping others improved his emotional state: because “helping others makes you feel good. It makes you feel like a good boy”. Billy said, “Mum is going to have another baby, at the doctors. I am going to help her”. His mother was pregnant at the time of the interview and Billy was excited about having a baby brother or sister. He was planning to "help mum do the bottle" when the baby was born.

There were 3 instances when Billy associated helping with situations in which someone or something was 'stuck'. In the first instance he said, “When they got a car stuck I helped them open it because I have got good muscles”. The second example involved his description of his father helping him. Billy said:

They help when I am stuck in my room when the door is stuck and I am locked out and the door keeps staying when dad shuts it, it keeps going stuck, so dad helped me to get out. Yeah it gets stuck lots when you slam it. (21 May 2013)

The third example involved Billy getting ‘stuck’ in the kitchen. He said that:

The door was locked and mum and dad couldn't hear me. In the kitchen I got my black toy and I used it to get out. My black toy didn't even break. (21 May 2013)

When questioned about learning Billy described how his friends and teachers helped him with an art project that involved cutting out and colouring. He did not say, however, that he had learned to cut and to colour. Billy said, “[teacher] helps me cut out the stars that I can't do. My friends help me colour in and help me cut out a bird on a piece of paper”. His class had completed a two-week ‘learn to swim’ unit at a community pool the week prior to the interview. Billy said that he had learned “how to get into the big pool” with his friends.

The questions about caring resulted in Billy identifying, “I care for my mum and my Nan and my brother and Koro”. Billy was then asked if there was anything else he would like to tell the researcher about helping, caring or learning. He replied, “I care about my auntie and my mum and my dad. Whenever they want help, I will help them”. Billy declined to draw a picture and the interview was concluded. The interview lasted 13 minutes 52 seconds

Alex. Alex is a boy of 5 years and 5 months old. He is New Zealand European. The teacher reported he had reactive coping: disobedient; does not seem to feel sorry; lies which indicate difficulty coping. Alex also had PTSD symptoms: sudden changes in mood; fearful-anxious; argumentative; difficulty concentrating; easily confused; impulsive; restless; irritable; withdrawn; clings. However, Alex gets along well with other children and is liked by others.

Alex seemed unsettled at the time of the interview and was distracted by another child who had been sent out of a classroom for naughty behaviour, close to the interview room. His initial responses to questions on helping others were non-committal. For example, he said, “I don’t know just help them”. As the interview went on, and he was not rushed, Alex relaxed and his comments became more expansive. As Alex’s score was 5 on the symptoms associated with PTSD, his stress may have affected his response time, as stress can have this kind of impact (Swenson et al., 1996).

Alex thought that helping others was about playing with other people, helping someone who was hurt and about caring and helping. He said, “I like playing with more friends and the people in the class and community”. He said that it was important to play with people in the community. He talked about helping his friend, Ross, who also participated in the study:

I take care of Ross when he hurts himself. They look after me and they tell the teacher if I get hurt. (21 May 2013)

Alex talked about checking to see if anyone had been hurt when they were outside playing. He also made reference to ‘others’ helping him if he was injured. It is not

known if something happened to Alex such that he associates hurt with helping. Alex said that he looked after his family; his mum, dad and sister but he did not say how he looked after them.

In response to the questions about learning Alex said, “at school we learn about boring stuff”. The same question was repeated with a long pause. This resulted in Alex identifying that he had learned new skills at school: “We learn how to stay still and listen on the mat”. He said that learning to sit still on the mat improved his listening skills. This is an example when Alex interpreted the repeated question as a sign that he had not ‘answered correctly’ or not met the expectations of the interviewer. Repeating the question is a correction tactic used for feedback by primary teachers.

Social referencing is a common problem experienced when interviewing young children (Smith et al., 2000). Alex, for example, attempted to change his answer. He then attempted to modify or correct the aspect of his answer that he thought was the ‘problem’, which was his use of the word ‘boring’, by pointing out what he had learned. These were behaviours that he knew fitted in with teacher expectations. This sequence demonstrates that despite his high scores on stress related items, Alex could interpret and respond to common types of cues used in teaching and learning situations.

Alex was reluctant to answer questions about caring so he was asked if he would like to draw a picture about it. He was enthusiastic and selected a yellow crayon to start his drawing (Figure 7). First, Alex drew a picture of himself and said that he was “looking up at the sky”. Next, he drew a cloud in the sky and he described it as being black. He coloured his face in green and then drew another cloud and a shoe. When asked about the shoe he reported, “This is not my shoe. I am over there (at

the top of the page) and the shoe is underneath me but not near me (figure 7). Alex repeated the comment that the clouds were black.

After he drew his picture he did not talk anymore. It appears that the black clouds in the sky, the boy (Alex) looking up at the sky and the lost shoe may have been related to traumatic memories, and this contributed to his growing silence and discomfort during the interview.

In summary, drawing the picture seemed to upset Alex, and it is unfortunate that this task seems to have triggered discomforting symptoms when it was meant to help him relax. He became less able to communicate clearly and increasingly restless. These behaviours are common in children who have symptoms of post-traumatic stress. The interview lasted 14 minutes 45 seconds.

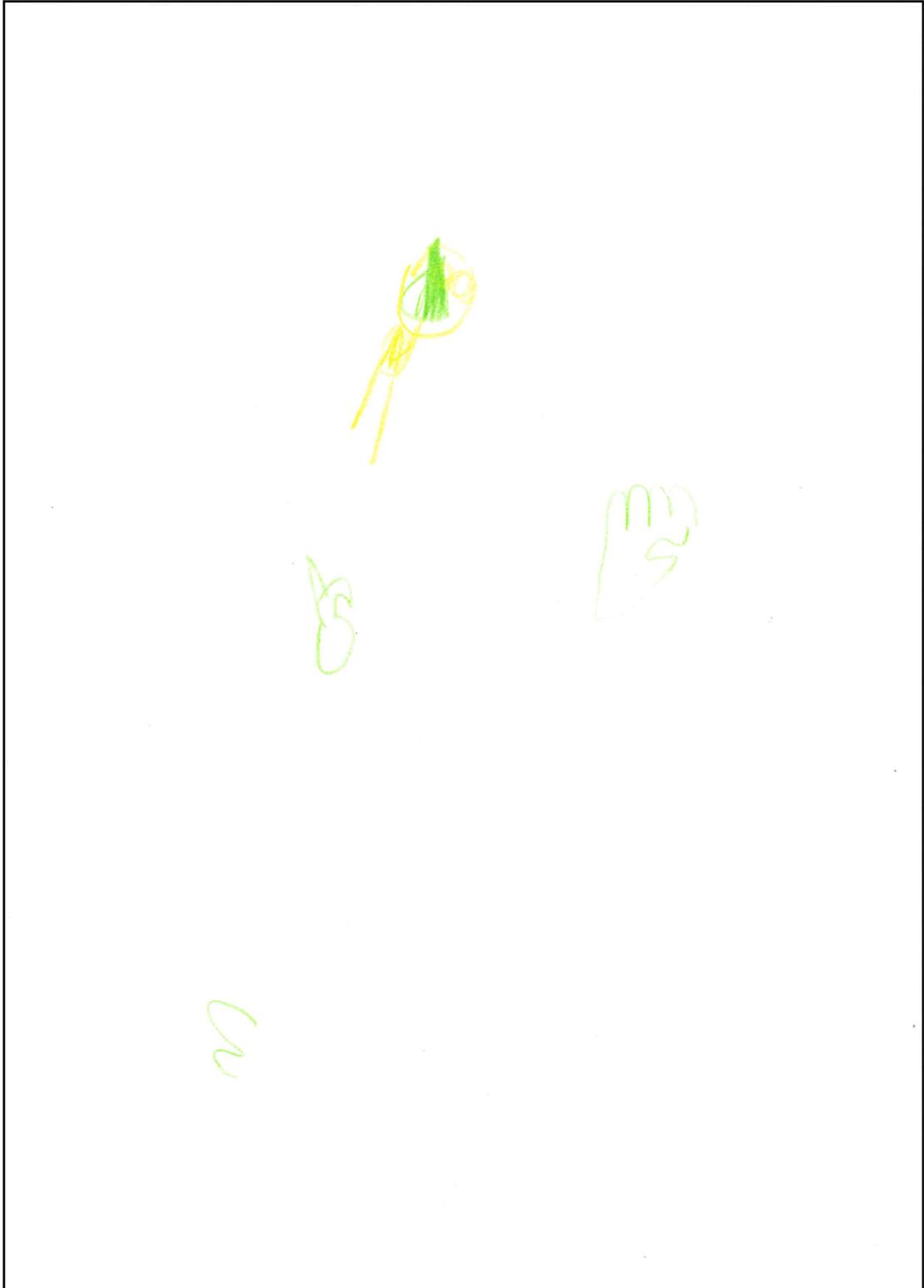


Figure 7: Alex's Drawing

Maisie. Maisie is a New Zealand European girl. Maisie's teacher reported: sudden changes in mood; tense & nervous; fearful/anxious; difficulty concentrating; easily confused; restless; unhappy-sad-depressed; withdrawn; clings and dependent which are PTSD symptoms (Bal & Jensen, 2007). However, Maisie seemed happy at the time of the interview.

Maisie was asked about helping and she told the researcher about her dislike of the rain. This may be an example of disorganised, disconnected thought. She gave this explanation:

There was a big puddle at our house. It was in the garden and we couldn't get through so we had to get out through mum's bedroom window. (21 May 2013)

Maisie, in response to questions about helping, told the researcher that her grandmother had taught her how to read: "Me and [gran] takes turns reading stories to each other". Maisie also reported that she had learned to swim. Unfortunately Maisie had not learned to swim and she was unable to participate in the two-week 'learn to swim' unit at a local pool the week prior, as there was no funding available from the family or school.

Maisie talked about caring for her grandmother when asked to tell the researcher about caring. She had looked after her grandmother who had been badly injured. Maisie told how after her grandmother had been released from the hospital she had helped her mother to lift her in and out of bed. She added that she cared a lot for her grandmother. In response to the researcher paraphrasing that Maisie cared for her grandmother she made a further comment that she was cared for by her family. She said, "My family only cares about me and my sister". It is possible that this is an

example where Maisie interpreted that her family were isolated from others, but it may also be an example where she thought that her answer had not met the expectation of the interviewer, and therefore added more to her response.

Maisie associated learning with playing, reading and her teacher. For example, when questioned about learning she answered, “I love playing on the playground, playing in the learning centre. I love playing in the learning centre and playing lots”. Maisie said again that she liked reading with her Nan. Finally, she said her teacher had taught her how to sit on the mat in the classroom, “You cross your arms and legs on the mat”.

Maisie did not want to draw a picture and she seemed tired after talking for 14 minutes and 25 seconds. The interviewer concluded the interview by thanking Maisie and using encouraging words, i.e. ‘Thank you Maisie. That really helped me with my school work and you did really great’.

Patrice. Patrice is a New Zealand European girl who had 5 PTSD symptoms: difficulty concentrating; easily confused; obsessive thoughts; withdrawn and unhappy-sad-depressed, which showed lower social support. However, the teacher reported that Patrice could get over being upset quickly; was mostly liked by other children and was self-reliant.

She came eagerly into the interview room. During the interview Patrice complained of a pain in her ear. This may have been because of an ear infection which is common in young children in New Zealand.

In terms of helping she said that she helped her family. Sometime prior to the interview Patrice and her family had been camping. It would be unusual to go camping during the winter in Christchurch. Patrice made reference to this time on numerous occasions throughout her interview. She spoke about helping her mother by going to bed at night-time and about helping her family when they were camping. She said, “Go to bed and have a camp, I had to go camping”. Patrice’s own words about helping her family were, “I helped to make my brother’s bed and I helped to make my sister’s too. My sister stayed with us too”.

The questions about learning resulted in Patrice reporting, “ I can write my name and count and write to 10”. Patrice showed she was proud of herself that she had mastered these skills. Patrice also said that she liked doing handwriting at school. An example was when she said, “I can write my handwriting. I can even write my friend’s name, Maisie”. It appeared that Patrice enjoyed the learning environment at school.

The questions about caring resulted in Patrice referring to babies. At the time of the interview her mother looked after other children. She said “babies are light and they have dummies [i.e. pacifiers] in their mouth. Mum holds them. If there are lots of

babies, then there will be baby stuff.” Another point about caring was described by Patrice. She spoke about when she was a baby and said:

My mum and my sisters were there when I was a baby. Jade held me. Dad was freaking out when I came out of mummy’s tummy and I was a girl. I had to have blue clothes . . . I had blue clothes . . . (22 May 2013)

Her parents expected a boy and had purchased baby boy clothes.

Patrice drew a picture using crayons (Figure 8). At the end of the interview she went back and labelled each figure, and these labels are shown in Figure 1. First, she made the letter ‘T’ (and underlined it), then she drew an ‘S’ for her sister and a letter ‘M’ for Patrice and then she drew a ‘B’ and a ‘M’ for her brother and her name. The next set of figures represented her family (i.e. ‘me’, ‘sister’, ‘mum’, ‘baby’). While she was drawing she explained how she was drawing the fingers, the eyes, the ears and the arms. It was a picture of her family camping. She drew the letters and figures in a clockwise direction. Then she started to draw the next part of the picture with the yellow, brown and green crayons (indicated with an arrow). After she drew Patrice told this story:

Fires burn you and you get burnt and this is the, that’s the fire. That’s the person running away with shoes on and he is carrying a baby in the back because there is a monster behind him. Then the baby is at the front and the police and ambulance are helping him. (22 May 2013)

It appears Patrice may have used her drawing as a tool to tell a story, or to help her narrate what she had been thinking about prior to the interview. Her drawing may have been about a traumatic event involving fire that she had experienced, such as a house fire. While she was drawing the last part of the picture she told the researcher that a policeman and an ambulance officer helped this person, and that he was okay. Young children's personal narratives offer a way for them to order their intrusive thoughts and explain the complexity of their experiences (Anning & Ring, 2004). The interview lasted 15 minutes 6 seconds.



Figure 8: Patrice's Drawing

Conner. Connor is a New Zealand European boy who had 5 PTSD symptoms as reported by his teacher. These were: difficulty concentrating; impulsive; restless; clingy and dependent on others. He also had: reactive coping; disobedient; demanding; cheating; lying and some positive coping: well liked by other children; got along with others and was cheerful.

Connor was fidgety in the interview room and as the interview went on he remained 'wiggly'. In terms of helping he talked about how he helped his family at home. Connor spoke about three instances when he had helped. First, he said, "I help my mum with the chores". Second, he said, "I helped my sister when she has a bad cough." Third, "I help my dad when my dad plays with me".

Connor spoke extensively about playing video games with his dad. Next, he associated playing video games and getting told off at school for bad behaviour. He said, "Sometimes I have my name on the board because I play video games with dad".

When asked about learning Connor explained that he had learnt with his friend, Jessie, at preschool. He was sad because the building where he went to preschool had sustained damage to its infrastructure. When describing this he said,

Once I learned at my preschool, my friend Jessie that's a boy and we went outside and my dad picked me up and he got to stay and play for a bit ... we didn't know that our preschool was getting knocked down, yea, that's why we couldn't go to school anymore. (22 May 2013)

It appears that the preschool was damaged during the earthquakes and this contributed to his memories of the event. The preschool is located in a north-eastern suburb, an

area that sustained significant destruction during the impact stages of the multiple earthquakes, in particular the magnitude 6.3 on 22 February 2011.

In reply to the questions about caring Connor told this story:

I like my daddy because he always gives me a lift-up cuddle when he gets home. When he gets home he might have a surprise for me. Only some days I get an ice cream. It's all frosted up and it's white and blue. It makes me have a brain freeze because I eat very fast. (22 May 2013)

In this example, there were two instances when Connor re-enacted parts of his story. He showed the interviewer how he gave his dad a cuddle and how he ate his ice cream. Connor seemed to be happy as he was telling this story. Connor spoke about his dad on many occasions throughout the interview – how his dad had been there to support and look after him.

Connor chose not to draw a picture. The interview lasted 13 minutes and 20 seconds. The interviewer concluded the interview by thanking Connor for sharing his stories.

Peter. Peter is a New Zealand European boy. The teacher reported that he was: tense and nervous; fearful-anxious; had difficulty concentrating; easily confused; impulsive; had obsessive thoughts; restless; withdrawn; clingy; irritable avoidance coping; not sorry after misbehaves and feels worthless. In addition, Peter lived with his dad and did not have contact with the rest of his family. However, prior to the interview the researcher did not know this.

At the start of the interview Peter displayed regressive behaviour. During the interview Peter seemed very alert to noise and on numerous occasions was startled and asked “What’s that?” He was startled by noise such as a door slamming. Hyper-vigilance, always being on the look-out for danger and super alert, is a psychological response of preschool children to disasters (Shaw et al., 2012). This is consistent with the teacher report which found that Peter was restless and overactive; withdrawn; clung to adults and had difficulty concentrating.

In response to the first set of questions Peter gave short answers comprising 1 to 2 words. When asked about helping he said, “Stones”. After the researcher asked Peter, “Tell me more about this” he gave an explanation. He had helped the [school ground and building caretaker] by sweeping up the stones. The follow-up question, “Tell me more about this”, was used by the researcher throughout the interview with Peter.

Early on in the interview Peter was asked the question, “What can you tell me about when you help your family?” He answered, “I don’t know, I don’t have a family”. The question was rephrased to include ‘dad’ instead of family. Peter said that his dad helped him learn to read and, “I like reading my book to my Dad”. Peter also said he enjoyed playing with his friends at school and, “My friends look after me”.

He asked if he could draw a picture. Peter put all the crayons together in a line and the interviewer said he could draw a picture of helping, caring or learning. He drew a picture of a peacock (Figure 9). He kept up a running commentary, sometimes addressed to the researcher and sometimes to himself, as he worked on his drawing. Peter described his peacock as multi-coloured and flying. While he was drawing he told the researcher the peacock he was drawing was his friend. He explained that the peacock told him how to play with his friends and helped him when he needed help. While he was drawing Peter said:

He helps me play. Now I am going to colour him in blue. The peacock says [high pitch cry] and he says, "Showing you how to play with your friends".
(23 May 2013)

After the interview the researcher discovered that Peter had drawn a similar multi-coloured peacock on a number of occasions during art activities.

After Peter drew his picture the researcher asked him some more questions.

Researcher: 'what can you tell me about learning?'

Peter: 'nah'. (23 May 2013)

When the researcher asked about learning again he said, "That's all". The researcher asked a question about caring and he replied "I forgot" and "that's all". Instead he wanted to line up all the crayons. Arranging the crayons into a straight line is a form of self-regulation, a symptom related to OCD and PTSD. Peter became fidgety indicating he wanted to end the interview.

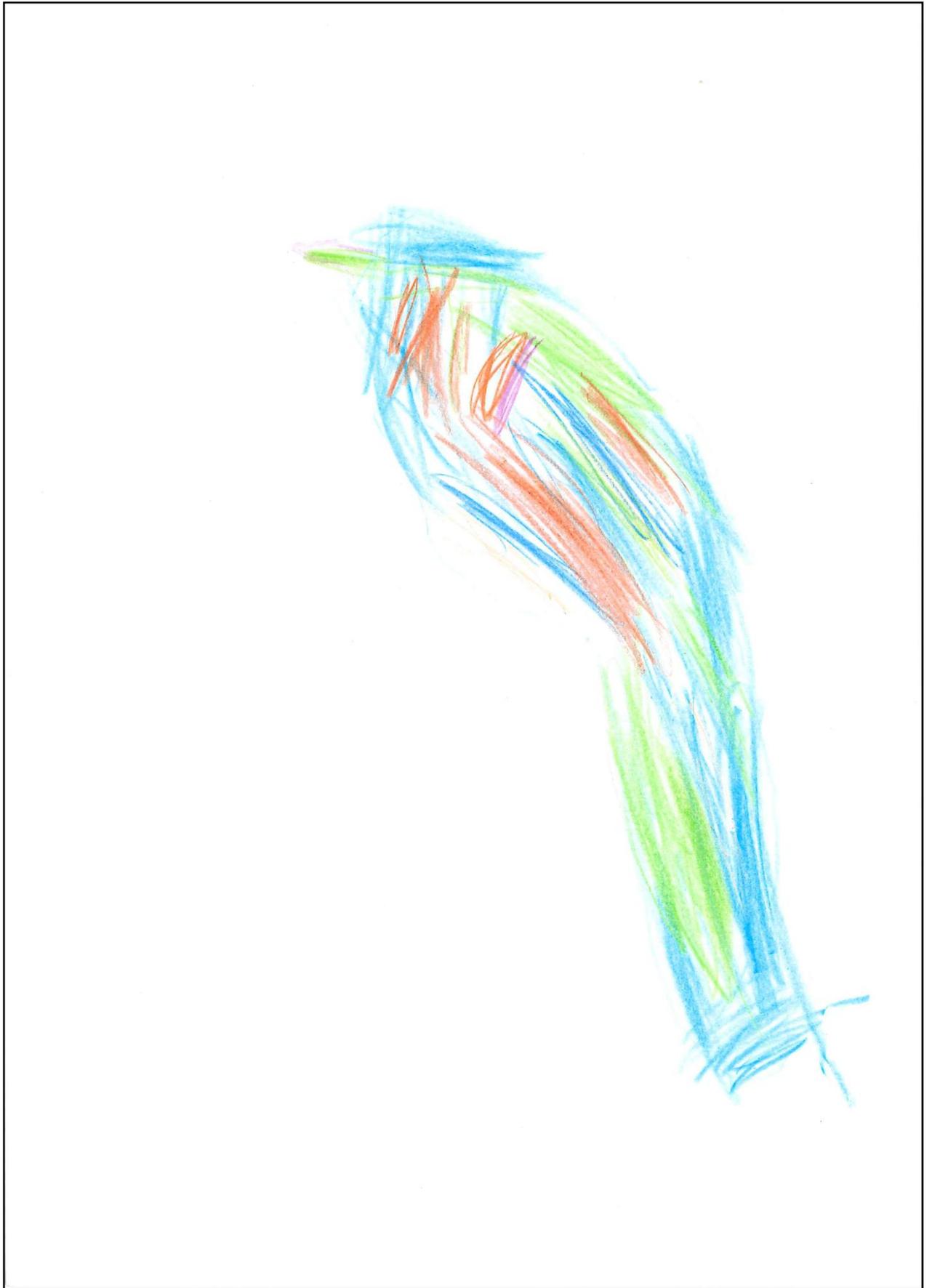


Figure 9: Peter's Drawing

Kurt. Kurt has Samoan heritage and is a boy. His teacher reported that he had: sudden changes in mood; was tense-nervous; fearful-anxious; restless; irritable; unhappy-sad-depressed; withdrawn. Kurt gets along well with classmates and is admired; liked.

He came into the room and seemed curious about the interview. Kurt enjoyed one-on-one time with adults; he demanded a lot of attention from his teacher and other adults. The first point that Kurt described in his interview was that he helped other people. Kurt said he showed the other children in the classroom how to sit on the mat. He said, “You show them how to cross their legs and sit on the mat”. In another example, which involved his friends at school, he talked about showing his friends how to behave. Kurt was proud when talking to the researcher about the role he played in the classroom, having responsibility and helping his classmates.

Kurt associated sharing with caring. He reported that he enjoyed playing with his friends and sharing his toys with them. The questions on caring resulted in Kurt being very talkative as he described how they played, when they played and who they played with.

Next, he talked about what he had learnt. Kurt said that he could count up to 15, “See, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15”. Next, he told the interviewer that he had learned to read. Kurt jumped from one topic to another during the questions about learning. He liked to talk about the most important thing that he had learned to do - build houses. He referred to himself as a ‘workman’ and explained how he had built houses with his dad.

When [teacher] gives me a book to read, I read it. I can build houses. All different kinds of houses, I learned how to build houses. (23 May 2013)

Next, Kurt asked to draw a picture about this with the paper and crayons on the table. Kurt drew a picture using a purple crayon (Figure 10). He narrated his drawing and acted out what was happening; his mother and father were arguing. First, he drew a book then he wrote his name, "I can read that book and write my name". The next part of the drawing was of a house. He drew the four sides and a roof. He drew a line over the top of the roof to separate this picture from the picture above (indicated with an arrow). He drew his mum and dad in the house. As he drew he said, "My dad said get out, get out now ... I don't want you in this house anymore so get out" and pointed to his mum. Kurt used a loud and very angry voice and pointed his hand in the direction of the door. The next set of figures included his cousin and auntie who had come to help. After his drawing the interview was concluded. The length of the interview was 13 minutes 59 seconds



Figure 10: Kurt's Drawing

Tim. Tim is a New Zealand European and Pacific Islander. The teacher reported that Tim had many symptoms of PTSD: sudden changes in mood; highly strung-nervous-tense; fearful-anxious; easily confused; obsessive thoughts; unhappy-sad-depressed; withdrawn; clingy; cries; dependent. Positives: thinks before acts; compliant to teacher; well liked by others. Everyday Tim cried inconsolably. He was very worried about being separated from his mum and would often say, “I want my [mother]”. His difficulty with being separated from his mother affected his emotional state, relationships with his classmates and the classroom activities. At the beginning of the interview Tim was fiddling with his hair and appeared anxious. He did not settle during the interview.

When questioned about helping Tim spoke about his mother helping him. He then described how he helped his friends and teachers to tidy up after art activities. He said, “I pick up crayons and pencils after art, that’s all”. He did not say, however, that his friends and teachers had helped him with this task. Tim explained how it improved his emotional well-being when helping his friend and teachers to tidy up, and when helping his friends when they were playing together. Tim said:

Helping others makes me happy. When I was playing outside and I help them, it makes me feel happy. (23 May 2013)

This is a very positive thing for Tim to say as it shows that although he struggles with being separated from his mother during the school day he also thinks about the times when he is happy. Tim seemed pleased when he was answering the questions and looked to the interviewer for approval. This is an example of social referencing which has been

found in other children's interviews. Tim gave the same answers when asked follow-up questions about helping.

The questions about caring resulted in Tim giving answers about love. He said, "I love my family and they love me". Tim repeatedly told the researcher that his mother loved him. When questioned about learning Tim talked about handwriting activities at school. Tim said that he liked completing this activity. He added that he had learned "how to complete my work in my handwriting book, and get a sticker" (The teacher gave stickers out to the children when they had completed their work without any help).

Next, he asked to draw a picture about caring. Tim drew a picture (Figure 11) of his friend, mother and himself going to the park. When he had finished his drawing he said, "Done. We are on the bus. That is [my friend], me, mummy and love". Tim was enthusiastic when talking to the researcher about his family.

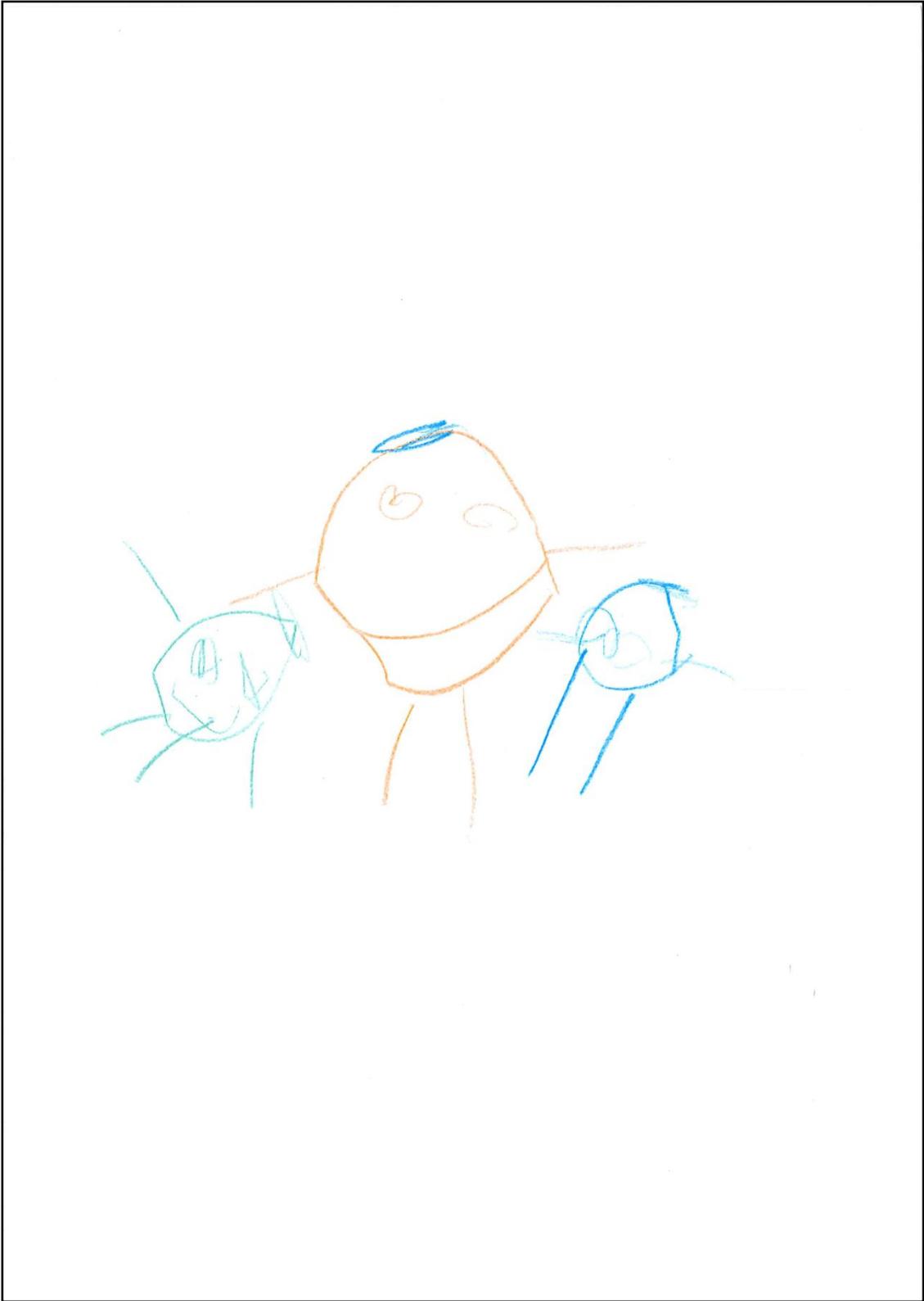


Figure 11: Tim's Drawing

Jacinda. Jacinda is a NZ European girl. Her teacher reported that she had difficulty concentrating; was impulsive; very restless and irritable. Jacinda also had positive behaviours: she waits her turn; is cheerful; gets along well with others; and is liked by others. She came into the interview room ready to talk and seemed delighted to be there.

With regard to the questions about helping others she interpreted this to be about a situation at school. She reported that she helped her friends when they were cutting out pictures and she was a helper when tidying up the classroom. Jacinda also said she helped her teacher by reading stories out loud to the class.

I help everybody tidy up, and I sometimes help the teachers, like Mrs Moore and Mrs Fleming. I help them, I help because sometimes they tell me to read and sometimes they ask me to read storyline words. (22 May 2013)

Without any prompting Jacinda started talking about caring. She told the interviewer that she cared about everybody. Jacinda could have heard that there was a question about caring from the other children in the study. Next, Jacinda changed the focus to talk about her cat that had died.

I care about everybody. I do care about my cat because he was sick and we couldn't make him better so he had to die. (22 May 2013)

In relation to the questions about caring she replied, “I like to play dead”. Jacinda continued to talk about caring for her cat when he was sick.

At this point in the interview Jacinda chose to draw a picture. Jacinda drew a picture (Figure 12) and used a black crayon to draw the outline. Whilst she was drawing she told a story. In the story she made reference to her level of mastery at colouring in. She said, “I am learning to stay in the lines see?” Whilst Jacinda was drawing her picture she was asked about what she was learning at the moment. She explained that [teacher] had been teaching her to keep her hands and feet to herself, and to put her hand up if she had something she would like to say. Jacinda then started to talk about her picture again. She said that it was a picture of the interviewer. In the drawing the interviewer was looking out for Jacinda and protecting her. The interviewer was also listening to the children who were telling stories.

Jacinda started talking about her learning again. She said:

I am learning to read and when I learn to read and [brother] was in bed I said [brother]. In the morning, I said [brother] I can read and he said I know. (22 May 2013)

Jacinda asked if she could go back to the classroom to work on her classwork.



Figure 12: Jacinda's Drawing

Rawiri. Rawiri is a New Zealand Māori. The teacher reported Rawiri had difficulty concentrating; easily confused; withdrawn; dependent; tense and nervous. He had positive behaviours: thinks before acts; gets over being upset quickly; admired by others; gets along well with others. In addition, the teacher report on how Rawiri was settling into school described him as settling in well although he was often hesitant and lacked confidence. Rawiri was shy and sat very quietly at the table in the interview room.

When he was asked the questions about helping others he said that he helped his family. Rawiri said, “I play rugby, basketball and swimming. I help my dad”. The majority of Rawiri’s responses to the questions about helping referred to physical activities. He said, “I play rugby at home, my dad helps me”. Rawiri has a younger brother and mum who he said he also played games with. He referred to other physical challenges like forward flips and dancing. Rawiri was eager to talk about sports.

When questioned about caring Rawiri talked about his family. He said:

I had to go to the hospital. I had to have a [dressing] on my arm. My little brother and my mum came with me and they care for me. (23 May 2013)

Rawiri described that he had helped his friend, another participant in the study, to settle in at school. He said, “I help Tim, we went to preschool and now he is my friend here. I help him to play with some toys”.

In response to the questions about caring and learning Rawiri said, “Dad cares about me because he knows all the words in my reading book”. Additional questions about learning resulted in Rawiri identifying, “I learned to play basketball and rugby”.

and “I learned to play with Tim on the playground. I learned with [teacher] to put my hand up and go to the toilet”. Rawiri declined to draw a picture and the interview concluded after 11 minutes and 22 seconds.

Josie. Josie is a New Zealand Māori and Samoan girl. The teacher reported that Josie had PTSD symptoms: sudden changes in mood (moody); tense and nervous; fearful and anxious; obsessive thoughts; restless; sad-depressed; withdrawn; cries too much; dependent. However, in the classroom she thinks before she acts; gets along well with others; and is admired and liked. In addition, Josie’s teacher reported how she was settling into school. She reported that Josie was very clingy and cried everyday. Josie was very distressed each morning and it was hard to console her.

In the interview Josie seemed to be unsure when and how she had to answer the questions. However, she settled down after the interviewer reassured her. Josie was asked the question about helping others. She gave a detailed answer and explained about a situation involving her mum, dad and two sisters. When describing this instance she said:

Me and my dad get into the car and take my mum to the doctor’s. I help my dad go to the doctor’s when he is sick. My big sister and my baby sister help everyone go to the doctor when they are sick. The doctor gives her medicine. (23 May 2013)

Josie spoke in detail about what she had learned. She said, “At school I learned to read and colour in pictures and put puzzles together in the right places”. She spoke extensively about reading. She said, “I like going to the library. We buy a book to read”.

Next, Josie drew a picture (figure 5.7) of her teacher. She drew a picture of herself and her two friends, [name] and [name]. She explained that they were reading together and simultaneously she drew a circle joining them together. After she drew the picture

she explained that this circle was the reading table. Josie said, “We are learning to read together”. Throughout her interview Josie talked about her family, teacher and herself. After she had drawn her picture she spoke about her friends. Her picture included two classmates who were also participants in the study. She said, “I like to go to the school library with my friends . . . We read out loud together”.

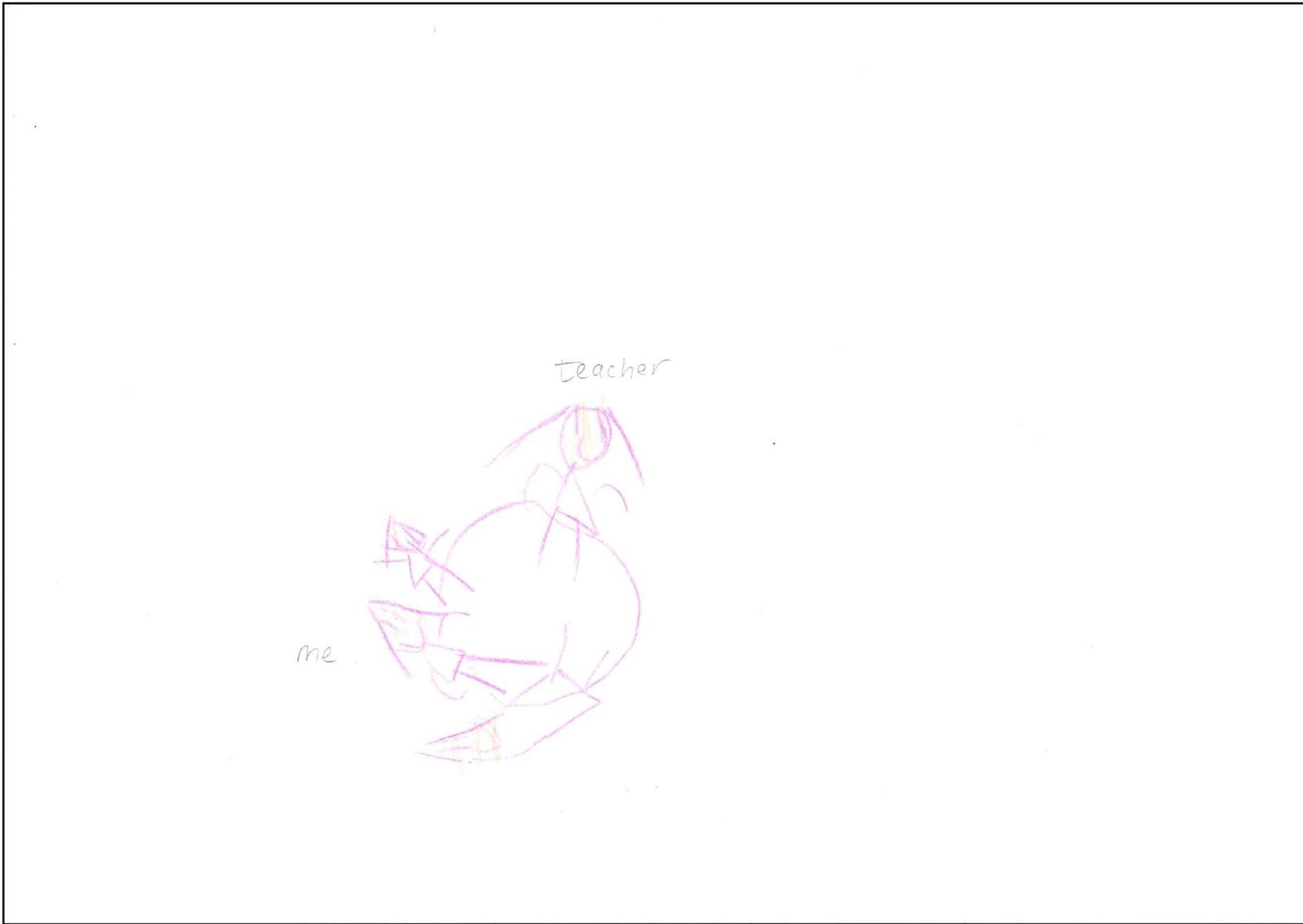


Figure 13: Josie's Drawing

Ross. Ross is a New Zealand European and Māori boy. The teacher reported that Ross had difficulty concentrating; was impulsive and restless. Ross was well liked by other children and got over being upset quickly. Ross had difficulties with hearing, vision and speech. He also has difficulties with his articulation of the letter ‘I’.

At the start of the interview Ross did not answer any of the questions about helping his friends or family. Ross was reluctant to answer the questions posed by the interviewer. After a brief pause Ross made reference to his grandad helping him. As the interview went on, and the interviewer listened closely to his responses and used gentle prompts, he talked more.

When he answered the questions about helping others he referred to, “helping everyone”. Ross spoke about helping his grandad. He said, “I help my grandad at home”. Ross was not comfortable with answering direct questions and this meant that the interview had a poor start.

Ross drew a picture (Figure 14). He asked the researcher to look away while he drew the picture; “close your eyes”. He announced, “I’m done”, to let the researcher know it was time to look at his picture. After he drew his first picture he answered a question about helping. He said, “My Grandad is helping me because I fell down on the concrete”. Next, he went back and labelled the two figures (these labels are shown in Figure 14). It appears that Ross was more comfortable when talking about his drawings and indirectly answering the questions.

While he was drawing his second picture he answered questions about learning and caring. He said, “I learned writing at school”. In response to the questions about caring he said, “Caring, sharing your toys with your friends”. He drew a picture to

communicate his ideas about caring (Figure 15). First, Ross drew two stick figures and on both of the faces he drew smiles. Then in between them he drew a toy car. He explained that he was drawing a picture of his friend and they were sharing Ross's toy car. Ross said, "I am sharing, I am sharing my toys with my friends". Drawing a picture seemed to relax Ross and helped him share his ideas about caring. Drawing enhanced Ross's ability to communicate with the researcher. He became more able to communicate clearly whilst talking about his pictures. Ross gave short or no answers at the start of the interview compared with longer answers while drawing. After using drawing to support Ross's talking the interview concluded.

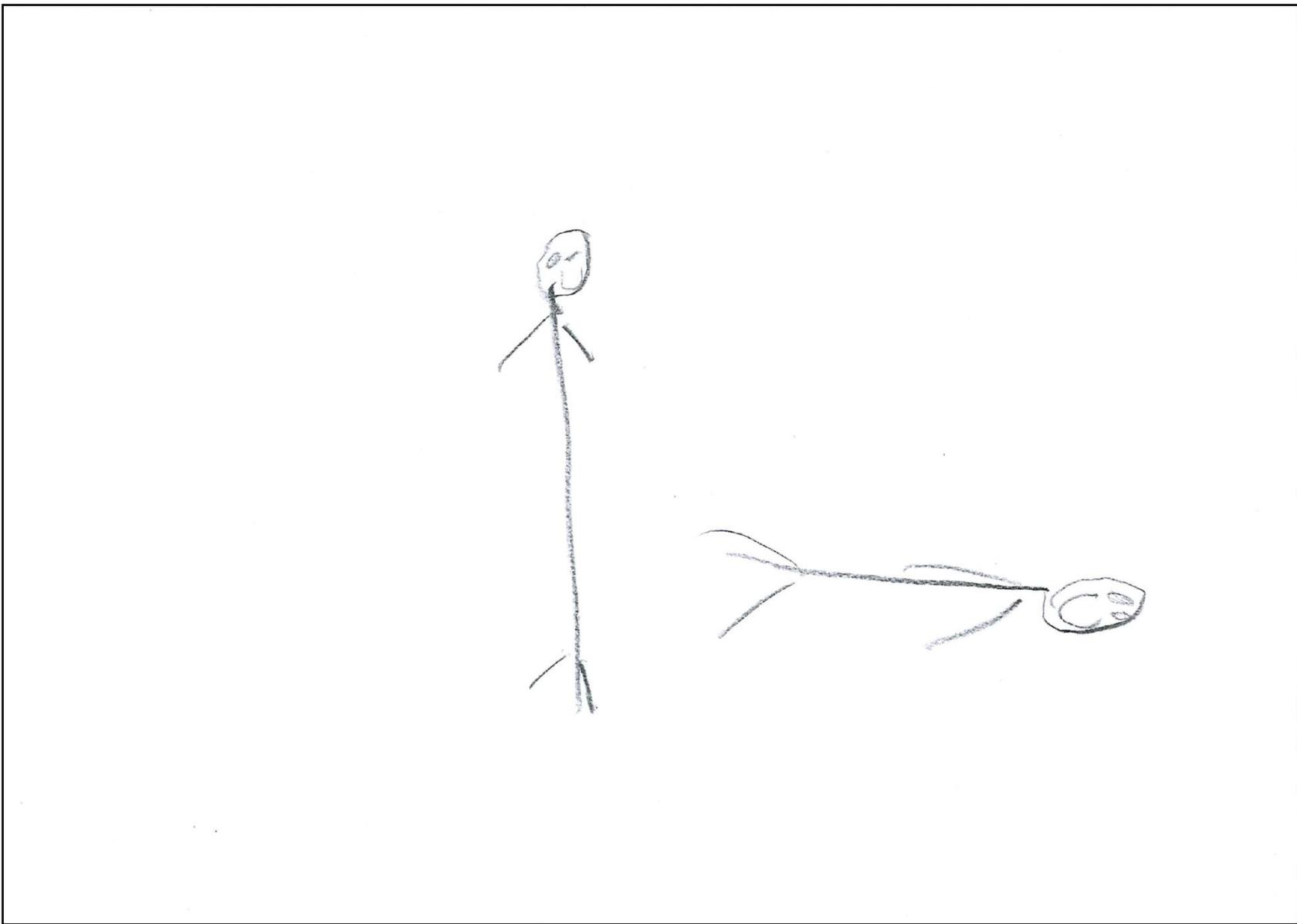


Figure 14: Ross's First Drawing

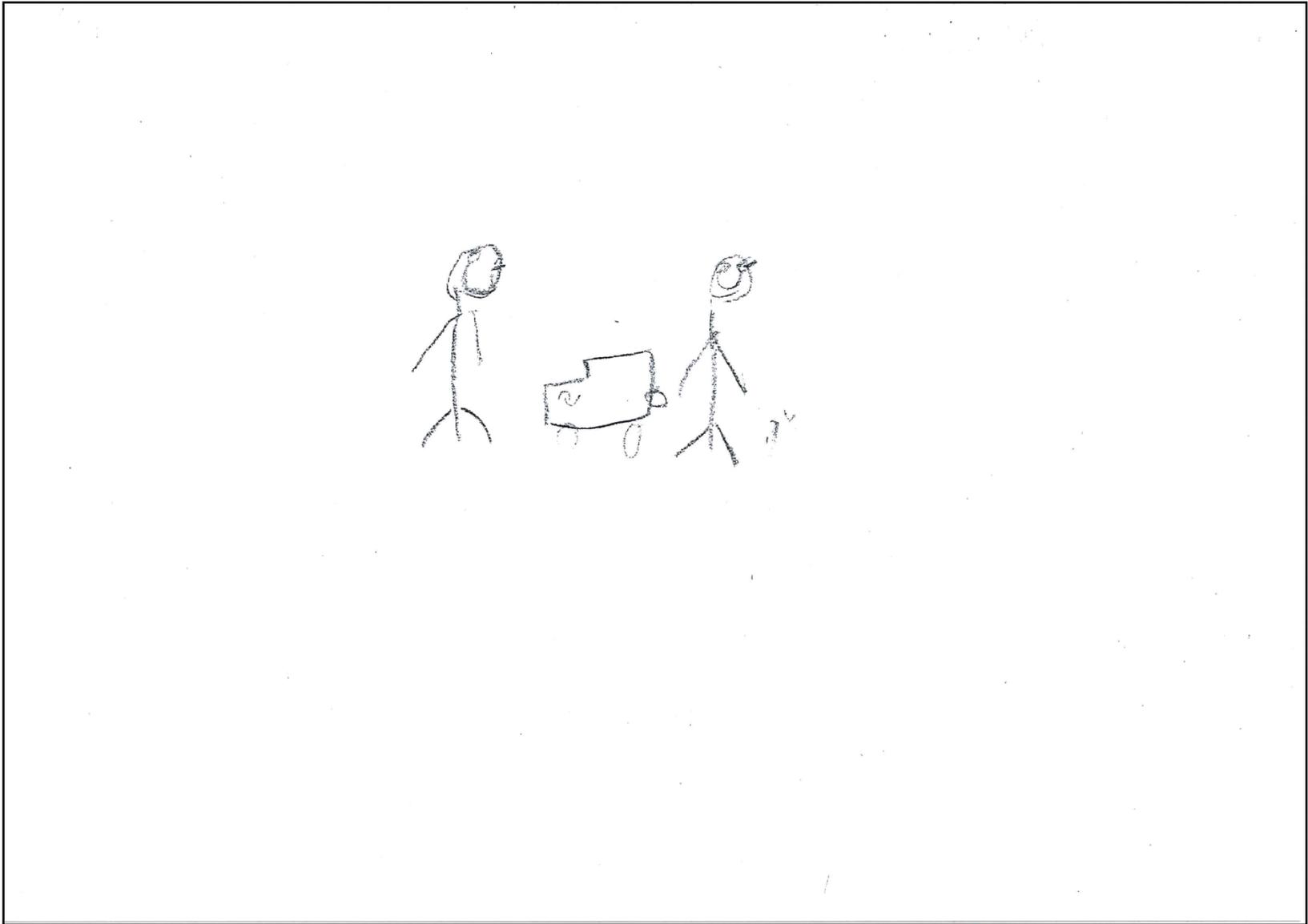


Figure 15: Ross's Second Drawing

Scott. Scott is a New Zealand Māori boy. The teacher reported that Scott could be highly strung-nervous; fearful-anxious; withdrawn; dependent on others. He thought before acting and got along well with others. According to his teacher Scott had not grown in confidence since starting at the school and was shy around the other children. Scott was less self-assured than other children.

When he was asked the questions about helping he said that helping was associated with going to sleep in his own bed. He said, “Make people happy, make people go to sleep by themselves. Then you go to sleep if you help them”. His mother reported that recently he had become afraid of sleeping alone. During this interview a recurring theme of being able to do things independently characterised his answers across helping, caring and learning.

In response to the questions about learning Scott said, “Make people write, just write the words. My family help me cut out pictures and to sit on the chair properly”. He had strong ideas about what learning meant. He believed that it was about completing activities by yourself. For example, “You make people happy if you learn by yourself” and “learning means drawing by yourself”. He equated moving towards autonomy as learning.

In response to the questions about caring he said, “caring is sharing; you can share your toys with your friends”. This was the same answer that other children in the study had previously given. It is possible that this is something they are taught at preschool or primary school.

Scott drew a picture about caring for others (Figure 16). The picture was of his mother holding him when he was baby. “[mother] carrying me when I was a baby, I was

a little baby because she cares about me. I didn't draw the grass yet." Next, Scott drew grass on the ground and described the grass as damp. Scott told the researcher "[teacher] taught me to draw by myself". In this class they completed art activities daily, and a key component of this activity was to try and complete it independently before asking the teacher for help.

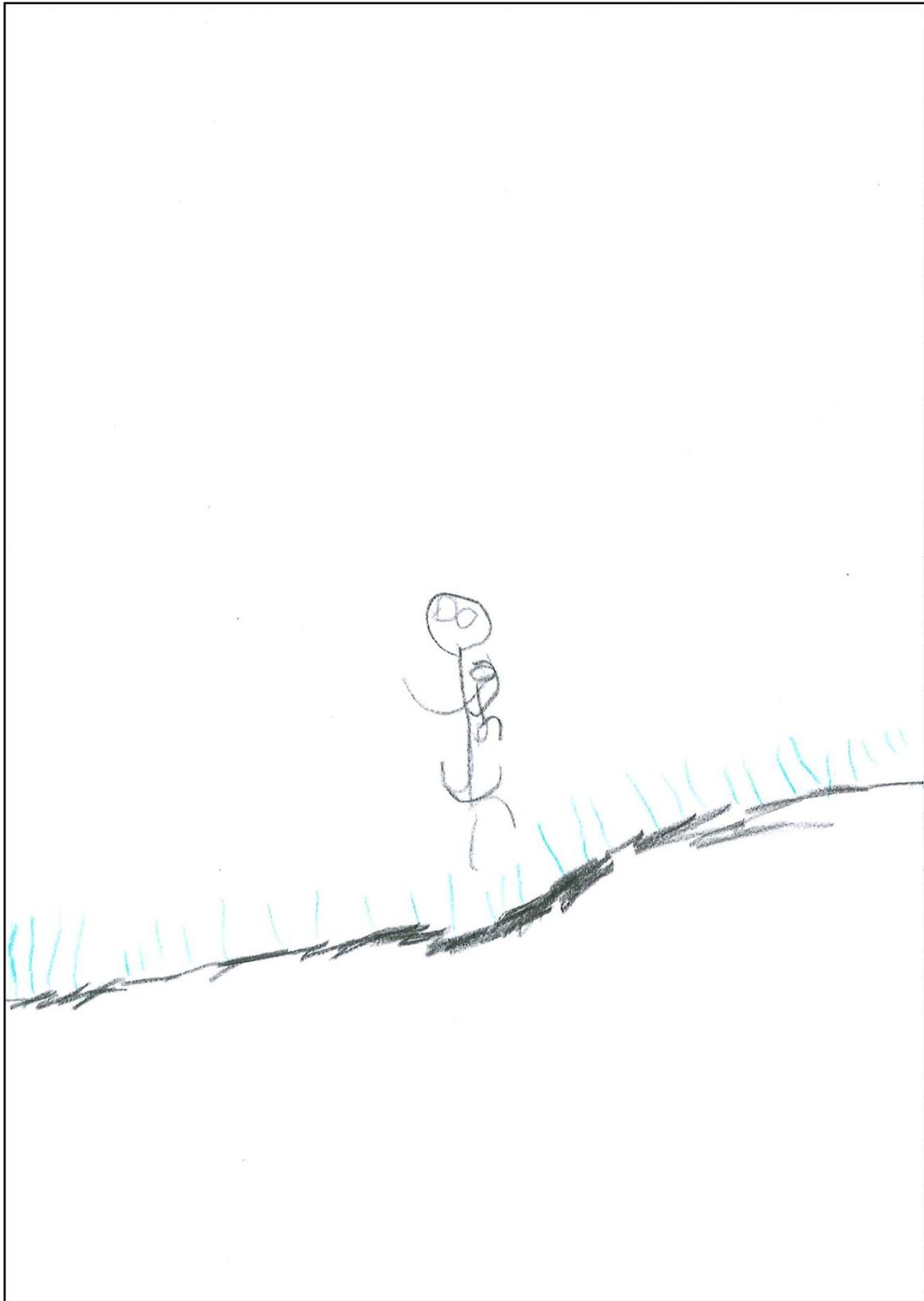


Figure 16: Scott's Drawing

Whitney. Whitney is a New Zealand Māori. The teacher reported that Whitney had no symptoms of PTSD and that: she gets along well with others; is admired and well liked. This shows that Whitney can be considered to be resilient. However, during the interview Whitney displayed regressive behaviours. Throughout the interview she used language and inflexions which were below her level. She spoke in a ‘baby voice’ and pinched herself on the arm.

When asked about helping others Whitney explained that her family helped her make her bed. Whitney also talked about her dogs. She said, “we have little poppies [dogs], they are tiny. Little dogs, they take off, they don’t run around on me but one of the girls. We have a boy and a girl. Me and [sister] can flip”. In response to another question about helping Whitney said, “my sister helps clean up the blocks. That sounds like my poppies, they always bark”.

When asked questions about caring Whitney said, “sharing means caring”. Then she spoke about caring for her family; she had a large family with step-parents and sisters. She also talked about her grandparents although it was difficult to understand what she was saying about them.

Whitney was asked about learning and she replied, “I am learning with my mummy, learning to be nice to my mummy. My mum’s name is [name]”. Whitney’s replies changed quickly from one point to another and at times seemed to be a little disjointed.

Whitney drew a picture using crayons (Figure 17). She narrated her drawing and the researcher went back at the end and labelled each figure. These labels are shown in Figure 17. First, she drew a rectangular shape and scribbled with the red crayon. Then she

drew the letter E in green and repeated this 5 times. She then drew lines that went anticlockwise around the circumference of the rectangle. She narrated that this part was “when mummy fell into the cup”. The next part of the drawing (indicated with an arrow) represented a shower. Whitney drew a cup that her Mum had fallen onto when she was in the shower. She explained how her mum had fallen and injured herself. She drew a blue line still in a clockwise direction down the left hand side of the page and said, “Mummy (points to the blue line) this is if you answer me back”. Then she started to draw the next part of the picture with the blue and changed the rectangle that was in the middle of the page into a heart.

Drawing the picture created an opportunity where Whitney was able to express more of her thoughts, which seemed to be disorganised. Whitney showed a similar pattern of disorganised thoughts when answering the questions. The purpose of these interviews was to allow children to have a voice. In Whitney’s interview she shared her point of view and it was heard.

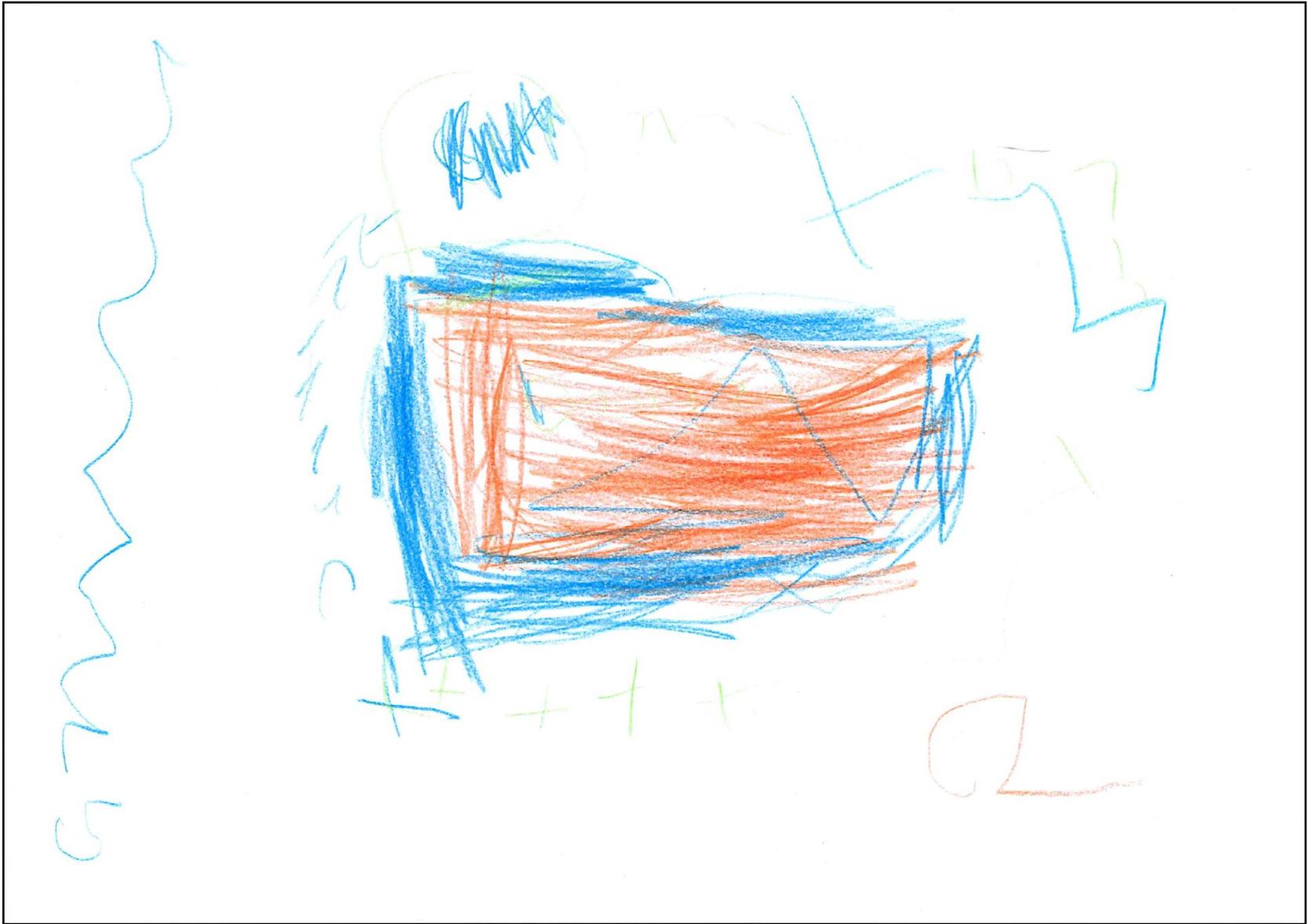


Figure 17: Whitney's Drawing

Hemi. Hemi is a New Zealand Māori boy. The teacher reported PTSD symptoms: difficulty concentrating; restless; unhappy-sad-depressed; clingy to adults; cries too much; demands a lot of attention. Hemi is quietly spoken but was eager to talk in the interview. When he was asked the questions about helping, he said that it improved his emotional state when people helped him: “when other people help you it makes you feel good”.

Hemi was living with his granddad and mother at the time of the interview. He had a younger brother who was also living with him and his two older brothers lived in the North Island. Hemi told a story about a situation when his older brother had hurt his feelings. After this story, Hemi told another about helping people at home. He concluded, “I help a lot of people, at my house”.

There were three instances when Hemi associated learning with when he was a baby. In the first instance he said, “Learning is so good. I learned a long time ago because I learned when I was a baby”. The second example involved his description of his grandfather teaching him how to read. Hemi said, “I help granddad with his reading. He helped me when I was a baby. I don’t have help now, I just keep going”. In the third example Hemi said, “I learnt to walk when I was a baby”.

Hemi drew a picture with crayons about caring (Figure 18). First, he drew the figures that represented himself (left) and the researcher (right) and gave the figures heads, legs, arms, trunk, eyes, nose, mouth and hair. He made reference to drawing a perfect circle for the heads. He drew a line between the two figures joining the two people together. He drew ears on one person (purple rectangles). Hemi started to add more detail to his picture; he explained that he had drawn a heart in his stomach. As he

narrated this part of his drawing he said, “There is a secret heart in my stomach, I don’t want anyone to see it, I want to draw over it”. Next, Hemi drew a flower and said:

You are getting love, this is me and that is you with a flower in your hair. You are dancing; can you write your name here so I can copy it? (22 May 2013)

Hemi was referring to the researcher in this description and copied her name. Drawing the picture seemed to comfort Hemi.

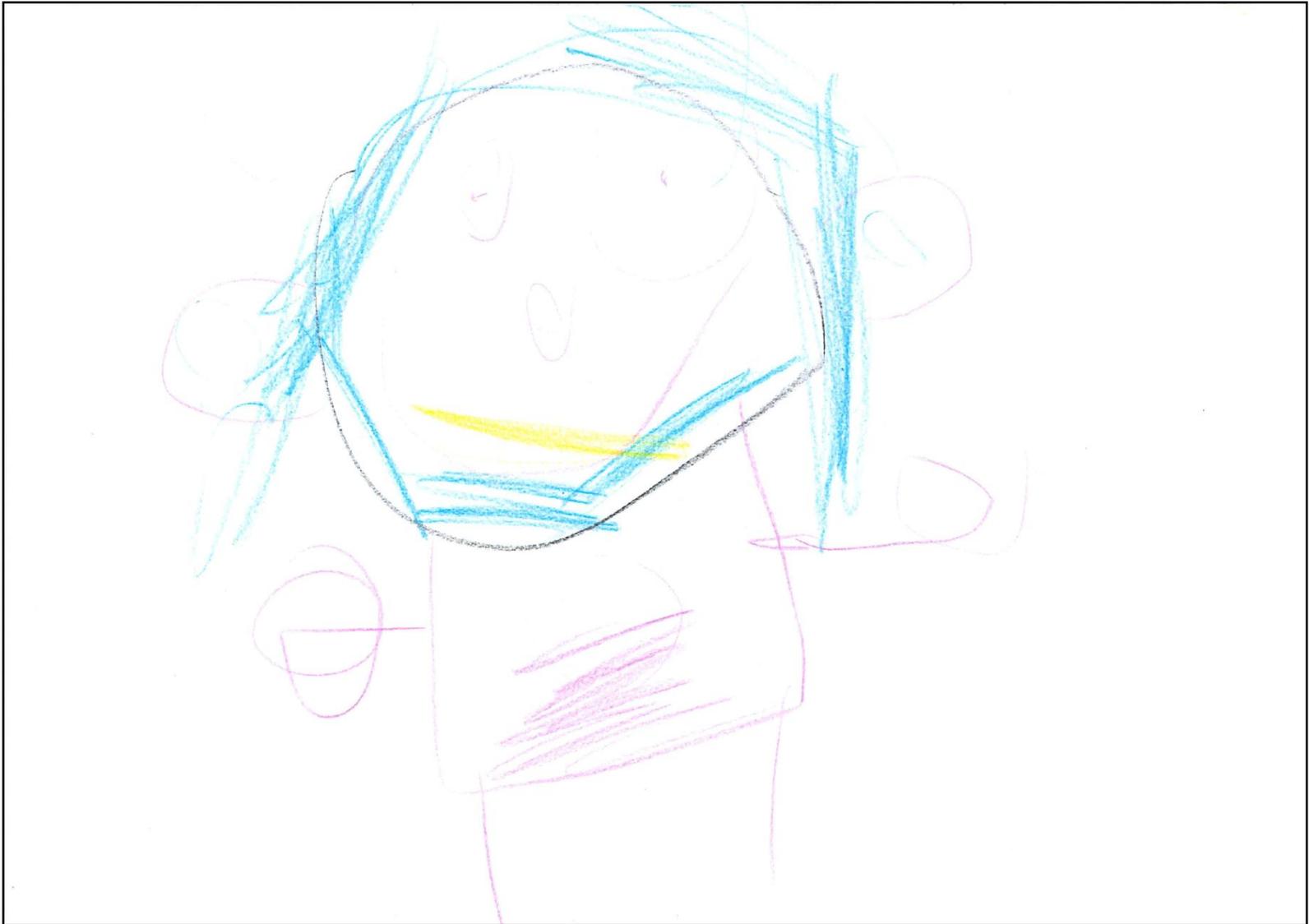


Figure 18: Hemi's Drawing

Melinda. Melinda is a lively New Zealand Māori girl. Her teacher reported that she was having difficulty concentrating and was restless. Melinda had avoidant coping (i.e. lies). She thinks before she acts; is well liked; gets along well with others and is self-reliant.

Melinda was very enthusiastic about talking in the interview. When she was asked the questions about helping others she said that this was about going to the doctors. Melinda had a medical problem, eczema, at the time of the interview and was in a lot of discomfort from it. She made reference to her eczema throughout the interview and showed the researcher the eczema on her arms. Melinda also said that helping was, “helping my friends with their reading”. She said that her mother helped her read stories. She said, “my mum helps me read a story about butterflies and The Wiggles”. There were two other instances when Melinda associated reading with questions about helping, caring and learning. In the first instance she said, “Someone is going to help me in the library. They will help me read a story”. The second example involved learning in the classroom. Melinda said:

I learn to read on the red table. It is like this one, round. We learn to read together at the table with the teacher. (23 May 2013)

The questions about learning resulted in Melinda identifying, “I like learning to play mind maps”. ‘Mind maps’ is an educational activity on the Ipad that the children were allowed to play in class.

When questioned about caring Melinda described how her family cared for her. She gave an example of caring:

Caring means that you are taking care of someone. My mum makes me feel better. Mum cares for me because she was giving me cuddles. (23 May 2013)

Melinda was then asked if there was anything else she would like to say. She replied, “Learning, people learn to read at home”. People help me with reading. Melinda had a clear excitement for reading which was evident through her talk about home, school, family and friends. As Melinda’s score was only 1 on the symptoms associated with PTSD, her lack of these symptoms, which when present were disruptive, may have increased her ability to focus on her passion for reading.

Melinda declined to draw a picture and the interview was concluded.

Rewa. Rewa is a New Zealand Māori girl. She had no symptoms of PTSD as reported by her teacher. It was also reported that she was: happy; waits her turn; completes careful work; gets along well; is admired; well-liked and can get over being upset quickly. This indicates high coping, low stress and resilience. She came confidently into the interview room ready to start the interview and to answer the questions. Rewa told a story about helping her mother: “we got her a present for mother’s day and I made her a card for her. I helped her; I got some food for her”. In terms of helping she also said that she helped the other children to get dressed after her class completed the ‘learn to swim’ unit. She also talked about helping the children who were new to the class:

I helped them learn to sit the school way. You fold your legs and your arms on the mat. If you put your legs straight out then they will touch someone in front of you and you’re not allowed to touch someone else. (13 May 2013)

An additional question about helping resulted in Rewa talking about how she helped her teacher, Mrs Kate. She said:

We had to read our books. We help Mrs Kate. We help her listen to us when we are reading. When we have finished reading she says “well done you three”. (13 May 2013)

One final point about helping was that her sister had taught her how to tie her shoelaces.

The questions about caring resulted in Rewa reporting that she cared for her baby cousin. Rewa showed she was proud of the way she cared for her cousin. Rewa also said that she played with her cousin and her cousin's toys. An example was when she said, "I pick her up and I hold her in my arms. I care for her. I play with her, we play with her toys".

The questions about learning resulted in Rewa talking about learning at preschool (kindergarten). Rewa spoke about learning at preschool with a friend. She spoke about learning to do art work such as painting and cutting out. She said:

I can do pretty painting and draw a butterfly. You paint the paper, fold it up, and open it, and cut it out.

She also spoke briefly about completing activity sheets (for art) in the classroom at primary school. Rewa was very talkative during her interview and shared her thoughts on helping, caring and learning.

Investigating Themes

The first step was to think about the relationship between the teacher report of the child's PTSD symptoms and what the child had talked about during the interview. The children spoke varyingly about helping, caring and learning.

The transcripts were re-read and coded deductively using the Te Whare Tapa Whā framework, whereby each of the four dimensions of this framework (taha whānau; taha hinengaro; taha wairua; taha tinana) signified a particular aspect of holistic well-being. This approach enabled a picture of the children to emerge in terms of their overall well-being from a kaupapa Māori perspective.

Quantitative information on the child's PTSD symptoms and the level of social support, that the teacher had gathered previously, was referred to after the qualitative data analysis. A full explanation of the details accorded to each dimension of the Te Whare Tapa Whā framework is outlined in this chapter.

Billy, Maisie, Connor, Peter, Tim and Josie expressed ideas about helping and caring that were characterised by family. All six children spoke about seeing their parent(s) as the most important people in their lives; the key people who helped and cared for them, and whom they helped and cared about. Billy told the researcher that he cared about his family. Maisie expressed that she cared for her family, in particular, her grandmother. Connor expressed ideas about helping at home and also that he cared about his family. Peter associated helping and caring with two male figures; the caretaker at his school and his Dad. Tim associated helping and caring with friends and family and Josie expressed ideas about helping her family. There seemed to be greater involvement in helping family members more than helping friends or classmates.

By contrast, a different group of children talked about helping friends or classmates. Melinda told a story about helping the younger children in the class by taking them to the office when they were ill: “I helped them go to the office, they were sick and I had to take them to the office”. Scott told a story about helping his classmates: “I help them by opening their drinks for them”. A similar finding was also identified in a study by Fothergill and Peek (2006) where helping others was used by children as a support system.

Tim and Billy expressed other ideas about helping. Their ideas were characterised by their knowledge about helping others and having a positive sense of self. Each child’s responses were similar to those of the other child when describing how helping others improved their emotional state. For example Tim said, “helping others makes me happy, when I was playing outside and I help, it makes me feel happy”. A similar response given by Billy was, “helping others makes you feel good. It makes you feel like a good boy”.

On the other hand, Hemi shared a similar idea about helping. He said, “When other people help you it makes you feel good”. It appears that some of these children had started to develop a positive sense of self and the importance of helping others.

Billy and Alex expressed their ideas by providing examples of when help was needed for non-menial tasks. For example, when asked about helping, Billy told a story about getting ‘stuck’ in the kitchen, “The door was locked and mum and dad couldn’t hear me. In the kitchen I got my black toy and I used it to get out.” Alex showed his concerns about his classmates getting hurt when playing outside. It appears that in these instances the questions about helping did not facilitate positive emotions, as intended by the researcher, and instead the children spoke about situations where they had been

worried. It is possible that these responses may be associated with a high number of behaviours linked to stress.

Josie and Kurt spoke about caring and sharing. Josie said that “caring is sharing” and Kurt expressed ideas about caring and sharing. On the other hand, Whitney, Ross and Scott, who had low BPI scores, also spoke about caring and sharing. It appears that this phrase, ‘caring is sharing’, is used by preschool teachers in early childhood education. For example, Barney’s “Sharing is Caring” learning tool teaches toddlers that sharing is the true measure of friendship. Although these children displayed different behaviours at school, they went to preschools in the same area where they may have heard this saying.

Children spoke about caring relationships. Rewa, Melinda, Scott, Jacinda, Ross, and Rawiri considered themselves to be admired and well-liked by other people. They described their caring relationships. Rewa spoke about her relationship with her baby cousin. She said, “I pick [cousin] up and I hold her in my arms. I care for her”. Melinda, Scott and Jacinda spoke about their relationships with their mother. Melinda said, “Mum cares for me because she was giving me cuddles”. The participants recalled strength and connectedness with others.

In recent years, a growing awareness of the impact that child-parent relationships has, both before and after earthquake or disaster responses in young children (4 and 5 year olds) indicates that these relationships are associated with post-disaster symptoms in children (Margolin et al., 2010). In this study it appears that some of the young children have strong connections with family and caring relationships.

One child talked about losing her house and other children talked about the destruction caused by the earthquake. The stories they told during their interviews were

of significant, personal importance to them. Billy expressed ideas about helping that were associated with situations in which someone or something was 'stuck'. Maisie spoke explicitly about her dislike of rain after there had been flooding and liquefaction surrounding her house. Alex expressed ideas about helping which associated helping with assisting other children who might be injured. Many children, both immediately after the earthquake and during the subsequent days and weeks, were exposed to friends and family who had been injured or saw media reports and images of those injured. Like this study, children in the study by Roussos and colleagues (2005) talked about how their homes were destroyed or damaged and about losing their houses (50% of the participants from Ano Liosia). It is likely that these experiences may have influenced their types of responses.

Three children expressed ideas about learning that were characterised by preparedness for daily routine at school. The ideas of these children were similar to each other as they all referred to following instructions. Maisie, Alex and Josie spoke about learning to sit on the mat in the classroom and gave an explanation of how it was necessary to do this at school. Alex told the researcher that he had learnt, "how to stay still and listen on the mat". A comment from a teacher in the study also identified this theme. She reported that the children usually come from preschool ready to learn. However, more children were coming to school unsettled and unprepared compared with before the earthquake. This is similar to a finding by Endo and colleagues (2007) where more than 40% of all of the preschool children aged 5 to 7 years had severe behavioural changes post-earthquake.

A pattern that emerged across responses was that the school served a significant purpose for each participant. For Billy, Alex, Tim and Josie it was a place where they were engaged in positive learning. For Connor and Kurt, although they did not mention their primary school when talking about learning, their responses showed it provided a safe place for them to explore helping and caring.

Across these children's responses a common theme of seeing friends who were helping others was viewed as another reason for wanting to learn at school. All of these children spoke of at least one classmate or teacher in the school setting who provided support for them. Even Peter, who found talking in the interview challenging, found that his classmates helped him. For example, he said, "I get some energy at school and Ross and Melinda help [teach] me to run".

Another pattern that emerged across responses was that the home also served a significant purpose for each participant. For Maisie, Peter, Josie and Kurt their home played an important role in their learning. For Maisie, Peter, and Josie learning to read took place at home and all of the children spoke of at least one parent who spent time reading with them (Josie also had success at reading at school).

The ideas of these children, Maisie, Peter, Josie and Kurt, may be similar because all of them experienced difficulty settling at school (upset or restless, overactive). During the school day they also experienced difficulty concentrating, were withdrawn and clingy to adults. These behaviours may cause a decline in academic performance and the ability to learn in the school environment (Shaw et al., 2012). It is important to consider, however, that each child is different and has different experiences whilst learning.

Patrice, Scott, Jacinda, Rawiri, Ross, Whitney, Hemi, Melinda and Rewa expressed ideas about learning that were characterised by describing their learning in a positive light. Melinda, Rewa, Hemi and Rawiri reported that they liked to do, or could do, certain academic tasks. For example, Patrice said, “I can write my name and count to 10”. Rewa said, “I can do pretty painting and draw a butterfly. You paint the paper, fold it up, and open it, and cut it out”. Hemi said, “I help granddad with his reading . . . I help him and read my stories.” In these examples, the children recall learning to read. In another example, Melinda said:

We learn to read on the red table . . . We learn to read together at the table with the teacher . . . I help my friends with their reading. We do good reading.

This finding, like that of Shaw (Shaw et al., 2012), shows how a school can provide the support, interpersonal relationships and learning environment necessary to promote post-traumatic growth, thus minimising the effect of a disaster

Patrice, Scott, Jacinda and Whitney expressed ideas about learning that were characterised by kindness. The ideas of these children were similar as they all referred to an understanding of having a positive attribute. Whitney spoke about helping her mother to read and the character strength of kindness was identified in her comment, “I am learning with my [mother] and learning to be nice to my [mother]”. Patrice said, “I can write my handwriting. I can even write my friend’s name, Maisie”.

During observations Patrice helped Maisie write her name. This was seen as an act of kindness. Some children also identified that they had the ability to make friends and interact effectively with others, for example, helping friends in the classroom. Rawiri

said, “I help Tim do his school work”. Her ideas were also characterised by her valuing friendships with others. Rewa said, “I like helping them to get dressed at swimming, they are my friends”.

Te Whare Tapa Whā Model

A researcher who is Māori (Doctorate in Māori health and well-being, and Māori Education) coded the interviews with the tamariki to identify which aspects of the Te Whare Tapa Whā model they referenced. The applied definitions for each domain of the Te Whare Tapa Whā are as follows: Taha Whānau includes comments made by the children specifically about family, relationships and social well-being. For example, Hemi said, “I help <mum> with homework. I don’t live at my dad’s house, though; I just live at my granddad’s house”.

Taha Hinengaro relates to thinking, learning and doing things for others. For example, Josie said, “I help people go to the office at school”. Taha Wairua includes comments that are specific to how they or others may be feeling, e.g. “Helping others makes me happy”. Taha Tinana refers to comments specific to physical well-being, e.g. Melinda said, “Dr Shima, when I had a round thing like eczema I went to the doctor for that”. All of the children’s responses were coded according to Te Whare Tapa Whā including those of non-Māori children.

Across the whole group it was found that there was significant reference to and preoccupation with Taha Whānau (family), i.e. most of the children talked about their family when asked about helping. The children spoke varyingly about Taha Hinengaro (thinking; learning; helping others) and Taha Wairua (if they were feeling happy inside, if

someone else was sad). Only some of the children spoke about Taha Tinana (physical / body; this may include hyper-vigilance).

Some of the children were identified as displaying overall well-being. For example, Rewa included all of the four dimensions in about the same number of statements during her interview, and did not talk more about her family than other dimensions. Rewa told stories that included Taha Tinana. She said, “I helped put shoes on for her [Jacinda] at swimming, at swimming I helped Jacinda put Jacinda’s on because I wanted to help her”. She demonstrated Taha Wairua by reporting, “We help her [the teacher], when we help her sometimes we see her on duty and we help her say that some people are being nice to us”. Her comment, “We got her a present for Mother’s Day and I made a card for her. I got some food for her”, showed Taha Whānau. Finally, Taha Hinengaro was illustrated by Rewa’s comment, “She usually cries when Aunty puts her in her bed she cries”.

Chapter 6

Discussion

Patterns of processing trauma were evident in this study. In each interview the child had access to materials to draw a picture. It appears that in this study the children's drawing might have shown unprocessed trauma - the most psychologically distant from resilience, and that the drawings were more connected to the emotions of the children and not their language. Children who had avoidant/reactive coping, such as Alex and Peter, drew pictures that shared their worries. However, Tim and Josie drew pictures that facilitated more positive emotions.

In Salloum and Overstreet's terms (2012) it is necessary for children to process trauma in order to see improvement in their distress symptoms. Their study used co-operative drawing as part of an intervention for grief and trauma. The children either drew coping and made a 'coping book' or drew trauma. In another study by Fothergill and Peek (2006) the younger children drew pictures that expressed their emotions through a visual medium. Thus, in sharing their ideas and stories the children identified their level of resilience and well-being.

The children who had avoidant and reactive coping, for example Connor and Josie, spoke about helping and caring in ways that were different to the children who had positive coping and resilience, such as Rewa and Whitney. Connor and Josie expressed ideas about helping and caring that were characterised by family. These children spoke about seeing their parents as the most important people in their lives, who helped and cared for them, and who they helped and cared about.

Children who have reactive and avoidant coping are those who struggle the most with post-disaster stressors (Shaw et al, 2012). Their ongoing ‘neediness’ for the family is expressed in their ideas about helping their family and having their family, specifically their parents, help them. As Margolian, Ramos and Guran (2010) explain, following earthquakes children who are quite young at the time of the disaster may have stress symptoms related to the relationships within their families. For instance, parents who have multiple stressors may communicate these to children, while families with lower stressors may be better able to reassure children and assist with their coping.

On the other hand, Rewa’s ideas of helping were characterised by her sense of responsibility in looking after other children and assuming a parent-type role herself. She was proud to assume this role within her own family. She recognised the importance of helping others outside of the family as part of a positive sense of self. The children who were resilient, such as Rewa, might have been supported by the modelling in their own family, along with “their own motivation and sense of purpose to ease the burden of others” (Margolian, Ramos, & Guran, 2010, p.4).

Hemi, who used both avoidant/reactive coping as well as positive coping, was also concerned about family. Billy and Maisie also expressed these ideas. This indicates that shifting concern out to a wider number of people may be the sign of a shift from avoidance/reactive coping to positive coping on a path to resilience.

The children who expressed positive coping expressed ideas about helping characterised by helping others. The social construction of helping, mainly mediated by verbal discourse from the children themselves, included participating in activities at home, and learning with others and family members such as younger siblings. The

children found to be helping others in this study, a behaviour aligned with social connectedness, were the children coping the most with the post-disaster stressors (Shaw et al, 2012).

According to Fothergill and Peek (2006), in the aftermath of disaster the ability to help others can increase children's coping and levels of resilience. Children cope better when they engage in a variety of helping activities such as helping to take care of other children or assisting parents with household chores. Similarly, a study by Layous and colleagues (2012) found that children experience improved well-being if they are helping and doing good for other children in their class. Past literature is clear about the effect of helping others. Not only do happy people have the personal resources to do good for others, but people who engage in pro-social behaviours, e.g helping and caring, experience increased levels of well-being (Aknin, Hamlin, & Dunn, 2012; Weinstein & Ryan, 2010).

Children such as Billy and Maisie expressed ideas about learning characterised by individual learning. Two children, Billy and Tim, spoke of art activities playing an important role in their learning at school. The children experiencing avoidant and reactive coping displayed one or more of the following behaviours during the school day: poor concentration; seems sleepy; over-active or hyper-vigilant; and clingy to adults.

Some of these behaviours were seen during the interviews. For example, Peter and Alex were over-active, were unsettled during their interviews and were not very talkative (Fothergill & Peek, 2006). They may have felt more comfortable communicating in a group setting. For example, 'Children, especially young children, acquire social knowledge through interaction with others as they construct meanings

through a shared process' (Eder & Fingerson, 2002, p. 184). Alternatively, they may have experienced psychological responses seen in preschool children post-disasters (Shaw et al, 2012).

PTSD related behaviours seemed to play roles in relation to expressed learning and, therefore, by the inferences made above, in relation to the children's learning and ideas about learning. For another child, Josie, who found the school environment extremely challenging, learning to read was a positive component of her school day. School was seen by Josie as a place where she loved to learn and share her reading, e.g. "I like to go to the school library. I love reading". As Shaw and colleagues (2012, pp. 206-207) explain, the school environment can be used to help children with fears and worries, promote peer interactions and normalise psychological reactions.

Children who cope positively, or are resilient children, have behaviours that may positively affect their learning such as: thinks before he/she acts and is not impulsive; can get over being upset quickly; persists when encountering difficulty. Positive behaviours seemed to play roles in relation to learning, and interacted with different ideas about learning. Resilient children recognise the importance of learning and helping others to learn, as part of a positive sense of self. Jacinda is an example. Resilient children may be supported by the modelling in their own families, along with their own motivation and sense of purpose to support other children in their class (Margolian, Ramos, & Guran, 2010, p.4).

Hemi, who uses both avoidant/reactive coping as well as positive coping, is also compassionate about teaching others. Josie and Ross expressed similar ideas. This indicates that an ability to help others to learn requires prior individual achievement,

which may be the sign of a shift from avoidance/reactive behaviours to positive behaviours on a path to resilience. This links in with studies from the literature that found that school connectedness could increase positive outcomes of health and well-being (McDermott et al., 2012). Additional support and changes in behaviour can therefore enhance children's learning experience.

Gender and Ethnicity

Of the 17 children in this study, 10 were boys and 7 were girls. Four boys had reactive and avoidant coping (40% of the boys) as compared to 2 girls (29% of the girls). Gurian (2006) found males were likely to present severe behaviour problems such as aggression and antisocial behaviour. This study supports that finding as more boys showed externalising behaviours.

In this study 6 boys had positive coping (60% of the boys) as compared to 5 girls (71% of the girls). Osman and colleagues (2012) found females were more likely to be open and talk about their feelings with others. This may be an explanation of why, in this study, more girls have positive coping. This study used the researcher's description of each child's interview and voice, as well as the teacher reports.

However, in this study, of the 7 girls, 5 displayed multiple anxiety problems. This is similar to the finding of Osman and colleagues (2012) who commented that females were significantly more anxious than males following a traumatic event. Other studies have also indicated that females were more likely than males to experience anxiety problems (Goenjian et al., 2000; Punamäki et al., 2005). In this study the girls may not have talked about their anxious feelings but the teacher report highlighted these problems.

Jones and colleagues (2001) reported that ethnicity could be related to resilience. They reported that ethnicity could be an advantage. In this study 10 children were Māori and 7 were non- Māori. Three Māori children had reactive and avoidant coping (30% of Māori) compared with 5 out of 7 (71%) non-Māori. In this study the minority youth (a minority culture of the wider community) fared better.

The Māori children had fewer problems than non-Māori children. Seven Māori children (70% of Māori) had positive coping as compared to 2 out of 7 (29%) non-Māori. Therefore, Māori ethnicity and identity related to stronger coping using the western model of resilience. This may be as a result of their 'wider' resilience. Lambert and colleagues (2012), for example, discuss Māori resilience in terms of community, whānau, tamariki and neighbourhood.

Children had different viewpoints of helping, caring and learning. Themes of resilience from the Western model were identified in the children's voices and drawings. Interpreting the children's stories using the Western concept of resilience as associated with social support identified that children who explained helping and caring for their family members, and were able to give explicit descriptions of these, were also the children whose teacher reported that other children liked them and that they got along well with others. These children also had few or no symptoms of PTSD. Children who described helping and caring in terms of how others took care of them, or had difficulty talking about the concepts, or whose attention wandered during the interview, were also children whose teacher reported higher numbers of PTSD symptoms, and more difficulty in terms of social friendships at school.

Concepts of helping, caring and learning seemed to play roles in relation to expressed levels of coping or distress, and therefore by the inferences made above, resilience. Links were forged between activities in the school and at home, between individual experiences, between group experiences including family, friends and siblings and between present experiences and possible future activities. The developing relationship between the researcher and child seemed to involve the formation of links between the children's experiences and their interpretations of the interview questions. Ideas were described as personal stories.

Three themes have emerged from a consideration, with a western perspective, of the children's interviews and drawings. The children's drawings contribute to processing trauma, and their ideas about helping and learning can be identified as relating to themes of resilience in western post-disaster studies. Children's concepts of helping and caring were characterised by assuming roles as part of their families; from being helped by family members to assuming a parent-type role and being proud to be part of their own family. Helping others may contribute to processing trauma and this is also linked to success in learning.

In this study, of the 17 children 14 had problems concentrating (80% of participants), 30 months post-earthquake. Their unsettled state was identified through teacher reports, observations and responses given in the interviews. The literature is clear about the far-reaching impact of earthquakes (Endo et al., 2007; Ying et al., 2012). The impact of a natural disaster on some children's behaviour in school is undeniable. Symptoms, as shown in the teacher reports, include difficulty concentrating, being withdrawn, restless and overactive, clingy to adults and crying.

Although each child taking part in the study had a unique story there some similarities in the responses. The collective need for connected relationships with family, friends and teachers, who they perceived as caring, was a protective factor for positive coping. Young children settling into primary school faced challenges. However, these children also showed positive coping and many of them had strong supports.

The patterns that emerge from this chapter demonstrate that for children to be able to learn in the classroom they need to be able to manage their emotions/feelings. This can occur post-disaster if they have a sense of safety and a supportive environment at school. Children who were experiencing positive coping post-earthquakes showed more nurturing tendencies and dependability, i.e. completing chores and looking after others. These children also showed an ability to manage emotions and value close friends/relationships with others. They also showed kindness. Children who were not experiencing positive coping were more unsettled and less capable of managing their emotions. However, they also showed character strengths, i.e. kindness.

A strong focus on family was found in many of the responses among children with PTSD symptoms. Some of these children experienced difficulties with separation from their parent(s), and they spoke explicitly about their families throughout their interviews. They were limited to talking about their family in contrast to children with positive coping who were able to talk beyond this subject.

The second theme of this study considered resilience from a kaupapa Māori perspective as illuminated by Te Whare Tapa Whā. All of the children's responses were coded according to Te Whare Tapa Whā including non-Māori children, just as all of the children were coded using the western model of resilience including the Māori children.

Children derived well-being from the Te Whare Tapa Whā model of well-being at different levels.

1 Te Whare Tapa Whā Dimension

Maisie and Peter derived well-being from a single dimension, Taha Whānau, and during their interviews the focus remained on their family. Using the Te Whare Tapa Whā model, these children are not considered to be in a strong state of well-being, as their conversation encompassed only one dimension of well-being. Neither of these children identified as Māori.

2 Te Whare Tapa Whā Dimensions

Three children mentioned 2 dimensions of the Te Whare Tapa Whā model. Ross, Patrice and Alex seemed to derive well-being from Taha Whānau and Taha Hinengaro, and spoke about their family and others in terms of thinking, learning and helping. The children in this study, whose conversations went beyond talk about family, showed slightly better well-being. These children with aspects of positive coping or resilience gave answers during the interview which were considered more balanced. They talked about how they cared for their families and also talked about other things during the interview such as learning with their friends. One of the 3 children here identified as Māori.

3 Te Whare Tapa Whā Dimensions

Five children derived well-being from Taha Whānau, Taha Hinengaro and Taha Tinana. Kurt, Whitney, Tim, Connor and Rawiri gave answers during their interviews

that referred to these three Te Whare Tapa Whā dimensions - psychological, physical and relational well-being. Four of these 5 children identified as Māori.

4 Te Whare Tapa Whā Dimensions

Seven children can be identified as having resilience and overall well-being according to the Te Whare Tapa Whā model. These children, Rewa, Billy, Melinda, Josie, Hemi, Scott, and Jacinda, derived strength from all 4 dimensions indicating psychological, physical, spiritual and relational well-being. It seemed that these 7 children were coping far better than those who referred to only 1 or 2 Te Whare Tapa Whā dimensions. Six out of 7 children in this category were Māori children.

Te Ao Māori

Of the 17 children in the study, 10 were Māori. There are no Māori children with only 1 side of the Te Whare Tapa Whā present (0%) as compared to two non-Māori children (29%). There were no Māori children with 2 Te Whare Tapa Whā present (0%) compared with 3 non-Māori children (43%). Four Māori children had 3 Te Whare Tapa Whā present (40%) as compared to 1 non-Māori child (14%). Six Māori children had 4 Te Whare Tapa Whā present (60%) as compared to 1 non-Māori child (14%).

In this study, some children did not display full holistic well-being. These children were all non-Māori. It may be that one or multiple dimensions of well-being were causing a lack of wholeness. In this study, all of the Māori children had 3 or 4 Te Whare Tapa Whā dimensions present. Māori ethnicity and identity therefore appear to be related to greater levels of resilience and well-being using the Māori model of resilience.

When Taha Whānau, Taha Hinergaro, Taha Wairua and Taha Tinana were all present in the children's interviews, there may have been a commonality in terms of how

their families responded after the first series of earthquakes; they were either cared for by their extended family in Christchurch or relocated to live with family outside of the city (Lambert & Mark-Shadbolt, 2012). This study also found that a number of children talked about their family for the whole length of the interview. Their conversation included talking about their family when they answered questions about helping, caring and learning. It was found that the children who talked solely about their family were the children who had lower levels of resilience.

Professor Angus Macfarlane (personal communication, July 15, 2013) remarked that young children naturally turn to whānau for strength and seek closer proximity to family. There is a set of contributing factors that might lead to children being vulnerable. In this study the young age of a child might be a factor for vulnerability and it can also mean that some children have a greater reliance than others.

There are concordances between the Te Whare Tapa Whā model and the western model. Children whose interviews mentioned all four dimensions of well-being were also those with the highest positive behaviours, indicating positive welling. In the Western model, Māori children voiced more themes of resilience, and in the Tapa Wha model, Māori children's transcripts were more likely to be inclusive of all four components of well-being. This is discussed in terms of the social support in Māori communities during the earthquakes. This has identified a concordance between the Māori and western perspectives of wellbeing/ resilience.

The relationship between the score using the Te Whare Tapa Whā model and the western model show that for this study there appears to be a strong correlation between the ethnicity of the children, holistic well-being and resilience. Could ethnicity be a

protective factor for the effects of earthquakes on children? The importance of schools in creating environments that foster resilience, through caring relationships and effective instruction, was a central finding. Cavanagh, Macfarlane, Glynn and Macfarlane (2012) describe this as schools creating a culture of care.

Limitations and Strengths

The strengths of qualitative description informed the decision to utilise this methodology for this study. However, a limitation relevant to this study is that qualitative studies are not always free from a researcher's interpretation and are, therefore, subjective. The participants in this study were not a random group. The participants were young children living in one of the worst earthquake affected areas of Christchurch, in one of the lowest decile schools within a low socio-economic neighbourhood. Including more participants or participants who were from less affected areas would have ensured that the children selected were a representative sample of all children affected by the Christchurch earthquakes.

This study did not include whānau/family. However, resilience is very important in families and communities. To that end, an addition to the current study, in which researchers talk to parents/caregivers of children and their whānau, to discover how they encourage and support them with coping and resilience is needed. It was also not possible to interview teachers, or find out the child's experiences of the earthquakes, or other aspects of their life (e.g. living in poverty) which might have influenced their responses.

The most truthful conclusions will be ones that are supported by multiple participants. (Shenton, 2004). For example, several children said the same thing when talking about how others took care of them. These children also had difficulty talking about the concepts, their attention wandered during the interview and they had higher numbers of PTSD symptoms as well as more difficulty in terms of social friendships at school. However, twelve children identified as having resilience and overall wellbeing using the Te Whare Tapa Whā model.

A direction for future research considering information from both a Western and a Tapa Whā perspective can also provide new insights into resilience in young children. Future research would also need to expand to include interviews with parents/caregivers and whānau in order to gain further insights.

Using different models identified different things that help us to understand children better. Children had different view points on helping and learning. Some children experienced PTSD symptoms, while other children experienced resilience in the wake of disaster. In addition, the results indicate that Māori children had greater levels of wellbeing and coping using both the Western model and the Te Whare Tapa Whā model.

In this study children spoke about family and community more than other issues (i.e. damage to neighbourhoods) when they told their earthquake stories. Anecdotal feedback from teachers and other school staff has identified that there are differences in how children are settling into primary school post-earthquake in Christchurch compared to pre-earthquake. Future research that investigates how far-reaching these differences are in young children's lives is needed.

References

- Aknin, L. B., Hamlin, J. K., & Dunn, E. W. (2012). Giving leads to happiness in young children. *PLoS One*, 7(6), e39211.
- American Psychiatric Association. (2013). *DSM-5*. Retrieved from <http://www.dsm5.org/Pages/Default.aspx>
- Bal, A. (2008). Post traumatic stress disorder in Turkish child and adolescent survivors three years after the Marmara earthquake. *Child and Adolescent Mental Health*, 13(3), 134-139.
- Bal, A., & Jensen, B. (2007). Post-traumatic stress disorder symptom clusters in Turkish child and adolescent trauma survivors. *European Child & Adolescent Psychiatry*, 16(7), 449-457.
- Ballard, K. (1994). *Disability, family, whānau, and society*. Palmerston North, New Zealand: Dunmore Press.
- Bateman, A., Danby, S. J., & Howard, J. (2013). *Everyday preschool talk about Christchurch earthquakes*. Retrieved from <http://eprints.qut.edu.au/56175/>
- Bloom, S. L. (1999). *Trauma theory abbreviated*. Retrieved from www.dhs.vic.gov.au/_data/assets/pdf_file/0005/587966/trauma_theory_abbreviated_sandra_bloom.pdf
- Boyden, J., & Mann, G. (2005). Children's risk, resilience, and coping in extreme situations. In M. Ungar (Ed.), *Handbook for working with children and youth: Pathways to resilience across cultures and contexts* (pp. 3-25). Thousand Oaks, CA: Sage Publications.

- Bulut, S., & Tayli, A. (2005). The dose of exposure and prevalence rates of post traumatic stress disorder in a sample of Turkish children eleven months after the 1999 Marmara earthquakes. *School Psychology International*, 26(1), 55-70.
- Clark, H. (2012). *Building resilience: The importance of prioritising disaster risk reduction*. Hopkins Lecture 15 August 2012. Retrieved from <http://www.undp.org/content/undp/en/home/presscenter/speeches/2012/08/15/helen-clark-building-resilience-the-importance-of-prioritising-disaster-risk-reduction/>
- Comer, J. S., Furr, J. M., Beidas, R. S., Weiner, C. L., & Kendall, P. C. (2008). Children and terrorism-related news: Training parents in coping and media literacy. *Journal of Consulting and Clinical Psychology*, 76(4), 568-578. doi: 10.1037/0022-006x.76.4.568
- Donnell, H., & Harper, P. (2011, 25 February). Christchurch earthquake: Levels of liquefaction, *The New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10708723
- Durie, M. (1994). *Whaiora: Māori health development*. Auckland, New Zealand: Oxford University Press.
- Durie, M. (2005). *Ngā Tai Matatu: Tides of Māori endurance*. Auckland, New Zealand: Oxford University Press.
- Eder, D., & Fingerson, L. (2002). Interviewing children and adolescents. In J. F. Gubrium & J. A. Holstein (Eds.), *Handbook of interview research: Context and method* (pp. 181-203). Thousand Oaks, CA: Sage Publications.

- Enarson, E., Fothergill, A., & Peek, L. (2007). Gender and disaster: Foundations and directions. In H. R. Quarantelli & R. R. Dynes (Eds.), *Handbook of disaster research* (pp. 130-146). New York, NY: Springer.
- Endo, T., Shioiri, T., Someya, T., Toyabe, S., & Akazawa, K. (2007). Parental mental health affects behavioral changes in children following a devastating disaster: A community survey after the 2004 Niigata-Chuetsu earthquake. *General Hospital Psychiatry, 29*(2), 175-176.
- Epps, S. R., Park, S. E., Huston, A. C., & Ripke, M. (2003). *Psychometric analyses of the Positive Behavior Scale in the New Hope Project and the panel study of income dynamics*. Paper presented at the Child Trends Conference on Positive Outcomes, Washington, DC.
- Fletcher, K. E., & Mash, E. (1996). Childhood posttraumatic stress disorder. In E. J. Mash & A. Barkley (Eds.), *Child psychopathology* (pp. 242-276). New York, NY: Guilford Press
- Fothergill, A., & Peek, L. (2006). *Surviving catastrophe: A study of children in Hurricane Katrina*. Retrieved from <http://www.colorado.edu/hazards/resources/socy4037/FothergillandPeek2006-1.pdf>
- Goenjian, A. K., Steinberg, A. M., Najarian, L. M., Fairbanks, L. A., Tashjian, M., & Pynoos, R. S. (2000). Prospective study of posttraumatic stress, anxiety, and depressive reactions after earthquake and political violence. *American Journal of Psychiatry, 157*(6), 911-895.

- Green, B. L., Grace, M. C., Vary, M. G., Kramer, T. L., Gleser, G. C., & Leonard, A. C. (1994). Children of disaster in the second decade: A 17-Year follow-up of Buffalo Creek survivors. *Journal of the American Academy of Child & Adolescent Psychiatry, 33*(1), 71-79. doi: <http://dx.doi.org/10.1097/00004583-199401000-00011>
- Grotberg, E. H. (2001). Resilience programs for children in disaster. *Ambulatory Child Health, 7*(2), 75-83.
- Gurian, A., & Kamboukus, D. (2006). *Caring for kids after trauma, disaster and death*. Retrieved from http://www.aboutourkids.org/files/articles/crisis_guide02.pdf
- Gutteling, B. M., De Weerth, C., & Buitelaar, J. K. (2005). Prenatal stress and children's cortisol reaction to the first day of school. *Psychoneuroendocrinology, 30*(6), 541-549. doi: 10.1016/j.psyneuen.2005.01.002
- Hawkins, S. S., & Radcliffe, J. (2006). Current measures of PTSD for children and adolescents. *Journal of Pediatric Psychology, 31*(4), 420-430.
- Hayes, G. P., Briggs, R. W., Sladen, A., Fielding, E. J., Prentice, C., Hudnut, K., . . . Gold, R. (2010). Complex rupture during the 12 January 2010 Haiti earthquake. *Nature Geoscience, 3*(11), 800-805.
- Holen, S., Lervag, A., Waaktaar, T., & Ystgaard, M. (2012). Exploring the associations between coping patterns for everyday stressors and mental health in young schoolchildren. *Journal of School Psychology, 50*(2), 167-193. doi: 10.1016/j.jsp.2011.10.006

- Hoven, C. W., Duarte, C. S., Lucas, C. P., Wu, P., Mandell, D. J., Goodwin, R. D., . . . Bin, F. (2005). Psychopathology among New York City public school children 6 months after September 11. *Archives of General Psychiatry*, 62(5), 545.
- Hughes, H. M. (1988). Psychological and behavioral-correlates of family violence in child witnesses and victims. *American Journal of Orthopsychiatry*, 58(1), 77-90.
- Hunter, C. (2012). *Is resilience still a useful concept when working with children and young people?* Retrieved from <http://www.aifs.gov.au/cfca/pubs/papers/a141718/index.html>
- Hutchinson, A. (2010). *When my home shook*. Retrieved from <http://whenmyhomeshook.co.nz/>
- Irwin, J. (1984). *An introduction to Māori religion: Character before European contact and its survival in contemporary Māori and New Zealand culture*. Bedford Park, Australia: Australian Association for the Study of Religions.
- James, N. (2012). Five ways of doing qualitative analysis. *British Educational Research Journal*, 38(5), 883-884.
- Jansen, C., Bruce, J., Williams, A., Campbell, J., Pawson, P., Harrington, J., & Major, D. (2010). *Positive youth development in Aotearoa*. Retrieved from http://ir.canterbury.ac.nz/bitstream/10092/6132/1/12627719_2011%20Positive%20Youth%20Development%20in%20Aotearoa.pdf
- Jeney-Gammon, P., Daugherty, T. K., Finch Jr, A., Belter, R. W., & Foster, K. Y. (1993). Children's coping styles and report of depressive symptoms following a natural disaster. *The Journal of Genetic Psychology*, 154(2), 259-267.

- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995).
Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of
General Psychiatry*, 52(12), 1048-1060.
- Kirmayer, L. J., Dandeneau, S., Marshall, E., Phillips, M. K., & Williamson, K. J. (2011).
Rethinking resilience from indigenous perspectives. *Canadian Journal of
Psychiatry. Revue Canadienne de Psychiatrie*, 56(2), 84.
- Kohlberg, L. (2009). The development of children's orientations toward a moral order.
Human Development, 6(1-2), 11-33.
- Koketsu, K., Yokota, Y., Nishimura, N., Yagi, Y., Miyazaki, S., Satake, K., . . .
Yamanaka, Y. (2011). A unified source model for the 2011 Tohoku earthquake.
Earth and Planetary Science Letters, 310(3), 480-487.
- La Greca, A. M., Silverman, W. K., Lai, B., & Jaccard, J. (2010). Hurricane-related
exposure experiences and stressors, other life events, and social support:
Concurrent and prospective impact on children's persistent posttraumatic stress
symptoms. *Journal of Consulting and Clinical Psychology*, 78(6), 794.
- Lalonde, C. E. (2006). Identity formation and cultural resilience in aboriginal
communities. In R. J. Flynn, J. G. Barber & P. M. Dudding (Eds.), *Promoting
resilience in child welfare* (pp. 52-71). Ottawa, Canada: University of Ottawa
Press.
- Lambert, S., & Mark-Shadbolt, M. (2012). *Māori experiences and expressions of
leadership through the Christchurch Otautahi earthquakes*. Retrieved from
<http://researcharchive.lincoln.ac.nz/handle/10182/5349>

- Lambert, S., Mark-Shadbolt, M., Ataria, J., & Black, A. (2012). *Indigenous resilience through urban disaster*. Retrieved from http://researcharchive.lincoln.ac.nz/bitstream/10182/5351/1/Indigenous_resilience_2012.pdf
- Layous, K., Nelson, S. K., Oberle, E., Schonert-Reichl, K. A., & Lyubomirsky, S. (2012). Kindness counts: Prompting prosocial behavior in preadolescents boosts peer acceptance and well-being. *PloS One*, 7(12), e51380.
- Lengua, L. J., Long, A. C., Smith, K. I., & Meltzoff, A. N. (2005). Pre-attack symptomatology and temperament as predictors of children's responses to the September 11 terrorist attacks. *Journal of Child Psychology and Psychiatry*, 46(6), 631-645.
- Lewis, M., Osofsky, J. D., & Moore, M. (1997). Violent cities, violent streets: Children draw their neighborhoods. In J. D. Osofsky (Ed.), *Children in a violent society* (pp. 277-299). New York, NY: Guilford Press.
- Macfarlane, A. (2005). Inclusion and Māori ecologies: An educultural approach. In D. Fraser (Ed.), *Learners with special needs in Aotearoa New Zealand*. Palmerston North, New Zealand: Dunmore Press.
- Macfarlane, A., Glynn, T., Grace, W., Penetito, W., & Bateman, S. R. (2008). Indigenous epistemology in a national curriculum framework? *Ethnicities*, 8(1), 102-127.
- Maeda, T., Furumura, T., Sakai, S., & Shinohara, M. (2011). Significant tsunami observed at ocean-bottom pressure gauges during the 2011 off the Pacific coast of Tohoku Earthquake. *Earth Planets and Space*, 63(7), 803.

- Margolin, G., Ramos, M. C., & Guran, E. L. (2010). Earthquakes and children: The role of psychologists with families and communities. *Professional Psychology: Research and Practice, 41*(1), 1.
- Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology, 63*, 227-257.
- Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology, Vol 63, 63*, 227-257. doi: 10.1146/annurev-psych-120710-100356
- Masten, A. S., & Obradović, J. (2006). Competence and resilience in development. *Annals of the New York Academy of Sciences, 1094*(1), 13-27.
- McDermott, B., Berry, H., & Cobham, V. (2012). Social connectedness: A potential aetiological factor in the development of child post-traumatic stress disorder. *Australian and New Zealand Journal of Psychiatry, 46*(2), 109-117.
- Ministry of Women's Affairs. (2012). *Sexual coercion, resilience and young Māori: A scoping review*. Retrieved from www.mwa.govt.nz/news-and-pubs/publications/sexual-coercion-part-2
- Najarian, L. M., Goenjian, A. K., Pelcovtztz, D., Mandel, F., & Najarian, B. (1996). Relocation after a disaster: Posttraumatic stress disorder in Armenia after the earthquake. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*(3), 374-383.
- Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and

- strategy for disaster readiness. *American Journal of Community Psychology*, 41(1-2), 127-150.
- Oncu, E. C., & Wise, A. M. (2010). The effects of the 1999 turkish earthquake on young children: Analyzing traumatized children's completion of short stories. *Child Development*, 81(4), 1161-1175.
- Osman, M., Hornblow, A., Macleod, S., & Coope, P. (2012). Christchurch earthquakes: How did former refugees cope? *The New Zealand Medical Journal*, 125(1357), 113.
- Panel Study of Income Dynamics. (2010). *The panel study of income dynamics: Child development supplement: User guide supplement CDS-I*. Ann Arbor, MI: Institute for Social Research, Survey Research Center, University of Michigan.
- Peterson, J. L., & Zill, N. (1986). Marital disruption, parent-child relationships, and behavior problems in children. *Journal of Marriage and the Family*, 295-307.
- Picou, J. S., & Marshall, B. K. (2007). Social impacts of Hurricane Katrina on displaced K-12 students and educational institutions in coastal Alabama counties: Some preliminary observations. *Sociological Spectrum*, 27(6), 767-780. doi: 10.1080/02732170701534267
- Proctor, L. J., Fauchier, A., Oliver, P. H., Ramos, M. C., Rios, M. A., & Margolin, G. (2007). Family context and young children's responses to earthquake. *Journal of Child Psychology and Psychiatry*, 48(9), 941-949.
- Punamäki, R. L., Komproe, I. H., Qouta, S., Elmasri, M., & de Jong, J. T. V. M. (2005). The role of peritraumatic dissociation and gender in the association between

- trauma and mental health in a Palestinian community sample. *American Journal of Psychiatry*, 162(3), 545-551.
- Pynoos, R. S., Goenjian, A., Tashjian, M., Karakashian, M., Manjikian, R., Manoukian, G., . . . Fairbanks, L. A. (1993). Post-traumatic stress reactions in children after the 1988 Armenian earthquake. *The British Journal of Psychiatry*, 163(2), 239-247.
- Rameka, L. (2003, January). *Cultural values and understanding as quality outcomes for early childhood*. Paper presented at the 11th Reconceptualizing Early Childhood Education Conference, Tempe, Arizona, USA.
- Reyes, G., Elhai, J. D., & Ford, J. D. (2008). *The encyclopedia of psychological trauma*. Hoboken, NJ: Wiley.
- Ritchie, J. E. (1992). *Becoming bicultural*. Auckland, New Zealand: Huia Publishers.
- Robinson, S. (2012, August 17). Trauma issues for quake kids *The Star*, pp. 1-3.
- Rotheram-Borus, M. J., & Phinney, J. S. (1987). *Children's ethnic socialization: Pluralism and development*. Newbury Park, CA: Sage Publications.
- Roussos, A., Goenjian, A. K., Steinberg, A. M., Sotiropoulou, C., Kakaki, M., Kabakos, C., . . . Manouras, V. (2005). Posttraumatic stress and depressive reactions among children and adolescents after the 1999 earthquake in Ano Liosia, Greece. *American Journal of Psychiatry*, 162(3), 530-537.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316-331.

- Salloum, A., & Overstreet, S. (2012). Grief and trauma intervention for children after disaster: Exploring coping skills versus trauma narration. *Behaviour Research and Therapy, 50*(3), 169-179. doi: 10.1016/j.brat.2012.01.001
- Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Research in Nursing and Health, 23*(4), 334-340.
- Shaban, M. S., & Al-Awidi, H. M. (2013). Understanding Emirati children's drawing in relation to self and identity through the interaction of social context. *Journal of Research in Childhood Education, 27*(3), 330-350. doi: 10.1080/02568543.2013.795508
- Shannon, M. P., Lonigan, C. J., Finch Jr, A. J., & Taylor, C. M. (1994). Children exposed to disaster: I. Epidemiology of post-traumatic symptoms and symptom profiles. *Journal of the American Academy of Child & Adolescent Psychiatry, 33*(1), 80-93. doi: 10.1097/00004583-199401000-00012
- Shaw, J. A., Espinel, Z., & Shultz, J. M. (2012). *Care of children exposed to the traumatic effects of disaster*. Washington, DC: American Psychiatric Publishers.
- Shen, Y., & Sink, C. A. (2002). Helping elementary age children cope with disasters. *Professional School Counseling, 5*(5), 322.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63-75.
- Smith, A. B., Taylor, N. J., & Gollop, M. M. (2000). *Children's voices: Research, policy and practice*. Auckland, New Zealand: Pearson Education New Zealand.
- Sprung, M. (2008). Unwanted intrusive thoughts and cognitive functioning in kindergarten and young elementary school-age children following Hurricane

- Katrina. *Journal of Clinical Child and Adolescent Psychology*, 37(3), 575-587.
doi: 10.1080/15374410802148236
- Sullivan, S., & Wong, S. (2011). An enhanced primary health care role following psychological trauma: the Christchurch earthquakes. *Journal of Primary Health Care*, 3(3), 248-251.
- Swenson, C. C., Saylor, C. F., Powell, M. P., Stokes, S. J., Foster, K. Y., & Belter, R. W. (1996). Impact of a natural disaster on preschool children: Adjustment 14 months after a hurricane. *American Journal of Orthopsychiatry*, 66(1), 122-130.
- Uemoto, M., Asakawa, A., Takamiya, S., Asakawa, K., & Inui, A. (2011). Kobe earthquake and post-traumatic stress in school-aged children. *International Journal of Behavioral Medicine*, 19(3), 1-9.
- UNICEF. (2001). The psychosocial school project for children affected by the 1999 earthquakes in Turkey. *A Project of the Ministry of National Education and UNICEF*, 5-40.
- Van der Kolk, B. A. (1996). *Traumatic stress: The effects of overwhelming experience on mind, body, and society*. New York, NY: The Guilford Press.
- Van der Kolk, B. A. (2005). Developmental. *Psychiatric Annals*, 35, 401.
- Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, 98(2), 222.
- Wertz, F. J., Charmaz, K., & McMullen, L. M. (2011). *Five ways of doing qualitative analysis: Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry*. New York, NY: Guilford Press.

- Widyatmoko, C. S., Tan, E. T., Seyle, D. C., Mayawati, E. H., & Silver, R. C. (2011). Coping with natural disasters in Yogyakarta, Indonesia: The psychological state of elementary school children as assessed by their teachers. *School Psychology International, 32*(5), 484-497. doi: 10.1177/0143034311402919
- Wilkie, A. (1999). *So--What's so special about special education for Māori?* Wellington, New Zealand: Council for Educational Research.
- Yehuda, R., McFarlane, A. C., & Shalev, A. Y. (1998). Predicting the development of posttraumatic stress disorder from the acute response to a traumatic event. *Biological Psychiatry, 44*(12), 1305-1313.
- Ying, L. H., Wu, X. C., & Lin, C. D. (2012). Longitudinal linkages between depressive and posttraumatic stress symptoms in adolescent survivors following the Wenchuan earthquake in China: A three-wave, cross-lagged study. *School Psychology International, 33*(4), 416-432.
- Ziegler, D. (2011). *The B.R.A.I.N: Changing difficult children from the inside out*. Paper presented at the Compass Seminars 25 October 2011, Christchurch.