

School of Psychology and Speech Pathology

Faculty of Health Sciences

**The Efficacy and Social Validity of a Group Cognitive Behavioural
Therapy for Young Migrants from War-affected Countries**

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Thesis Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature: 

Date: ...22/11/12.....

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Abstract

School-based group intervention has been suggested to be an effective framework when working with war-affected children. However, many of the studies published in the literature are limited by small sample size, absence of randomisation, absence of a control group, unsatisfactory programme integrity procedure, and narrow study outcomes. One of the promising group interventions was the Teaching Recovery Techniques (TRT; Smith, Dyregrov, & Yule, 2000). It was developed based on the cognitive behavioural models of posttraumatic stress disorder (PTSD) and has demonstrated preliminary efficacy in reducing PTSD and associated symptoms in refugee children in developing countries (Barron, Abdallah, & Patrick, 2012) and developed countries (Ehnholt, Smith, & Yule, 2005). However, the efficacy of this intervention has not been tested in an Australian context. The aim of this research was to examine the efficacy of the TRT in improving the emotional and behavioural outcomes of war-affected children resettled in Australia using a cluster randomised controlled trial (RCT) with pretest, posttest, and 3-month follow-up design. The secondary aim of the research was to examine the social validity of the intervention.

These aims were investigated utilising quantitative and qualitative methods in three studies. Study One involved a pilot study which was conducted with a sample of four participants prior to the RCT in order to investigate the feasibility of the research. Feedback from students and parents suggested the appropriateness of the intervention and research procedure. In Study Two, a cluster RCT involving 82 participants (aged 10 to 17 years) was conducted. Participants were randomised by school into the 8-week intervention ($n = 45$) or the waiting list (WL) control condition ($n = 37$). Inclusion criteria were exposure to war or violence, being a recent arrival, and mild to moderate symptoms of PTSD. Exclusion criteria were meeting the clinical cut off score of PTSD, limited English proficiency, being an unaccompanied refugee, and currently receiving psychological treatment. Symptoms of PTSD, depression, and internalising and externalising problems were assessed using the Children Impact of Event Scale-13, Birlson Depression Self-Rating Scale,

and Hopkins Symptom Checklist-37A respectively. Psychosocial functioning was measured using parent- and teacher-rated versions of the Strengths and Difficulties Questionnaire. It was hypothesised that participants in the intervention condition would experience greater symptom reductions, compared to participants in the WL condition.

A medium intervention effect was found for depression symptoms. Participants in the intervention condition experienced a greater symptom reduction than participants in the WL condition, $F(1,155) = 5.20, p = .024$, partial $\eta^2 = 0.07$. This improvement was maintained at the 3-month follow-up, $F(2,122) = 7.24, p = .001$, partial $\eta^2 = 0.20$. There was a non-significant trend for a greater reduction of PTSD symptom in the intervention condition, $F(1,154) = 3.09, p = .081$, partial $\eta^2 = 0.04$. Changes in internalising problems, $F(1,155) = 0.03, p = .871$, partial $\eta^2 = 0.00$; externalising problems, $F(1,155) = 0.25, p = .621$, partial $\eta^2 = 0.01$; parent-rated total difficulties, $F(1,133) = 0.28, p = .599$, partial $\eta^2 = 0.00$; parent-rated prosocial behaviour $F(1, 155) = 0.07, p = .798$, partial $\eta^2 = 0.00$; teacher-rated total difficulties, $F(1,145) = 0.52, p = .472$, partial $\eta^2 = 0.00$; and teacher-rated prosocial behaviour, $F(1, 145) = 0.03, p = .874$, partial $\eta^2 = 0.00$, were not significant between the conditions. Analysis of reliable change revealed that there were more participants in the intervention condition than participants in the WL condition achieving reliable improvements in PTSD (21% vs. 11%) and depression (12% vs. 6%) symptoms.

Study Three involved an investigation of the social validity of the intervention using a student-rated evaluation form and feedback interview with students and parents. Students described looking forward to the weekly sessions and identified a number of skills that were particularly helpful to them. Some parents reported that their children had not involved them in their learning process but were able to identify positive changes in the emotions and behaviours of their children. Also, parents considered the intervention as culturally sensitive and were supportive of their children receiving the intervention.

Although this research has several limitations such as the absence of a placebo control group and blinding procedures, and small cluster sample size, the findings demonstrated that the group-based intervention is culturally sensitive and efficacious in reducing depression symptoms in war-affected young migrants. The broader implication of the results for practitioners is that this intervention can be

implemented as a time- and cost-effective early intervention programme for war-affected children with depression symptoms.

Chapter 1: Thesis Introduction

The 'kids' really are playing, which is why us kids are not playing, we are living in fear, we are suffering, we are not enjoying the sun and flowers, we are not enjoying our childhood. WE ARE CRYING. (Filipović, 1994)

War no longer involves just armed forces but voiceless and vulnerable children. Machel (2001) observed that the changing paradigm of war and armed conflicts in the last 50 years has seen the involvement of more civilians than ever. For example, between the period of 1990 and 2003, conflicts have killed 4 million people, of which 90% are civilians (United Nations Development Programme, 2003). According to the Global Trend Report (United Nations High Commissioner for Refugees, 2010), 44 million people have been displaced by the end of 2010 and almost half were children under the age of 18 years. Children exposed to armed conflicts are at risk of experiencing or witnessing traumatic events such as murder, rape, bombing, shelling, starvation, and separation (Barenbaum, Ruchkin, & Schwab-Stone, 2004; Perrin, Smith, & Yule, 2000; United Nations Children's Fund, 2004). Those who survived war or conflicts are also beset by ongoing problems such as daily reminders of the horrors they have witnessed, displacement, injury, disruption to food supply, loss and separation, and breakdown of social structure (Machel, 2001). Post-migration challenges are also commonly experienced by those who resettle in a new country (Ehnholt & Yule, 2006; K. E. Murray, Davidson, & Schweitzer, 2010).

PTSD is one of the most common disorders associated with, and the only disorder directly caused by, traumatic exposure (American Psychiatric Association, 1994). It is one of the most commonly diagnosed disorders in adults living in America (Kessler, Berglund, et al., 2005). While some may argue that PTSD is a Western culture-bound disorder with limited application to people from non-Western backgrounds (Summerfield, 1999), its symptoms have been found across cultures (Hinton & Lewis-Fernández, 2011). In addition, children were once believed to be immune from PTSD (Dyregrov & Yule, 2006; La Greca, Taylor, & Herge, 2012) but

research findings and clinical data in the last two decades have shown that children can suffer from PTSD as well (Barenbaum et al., 2004). Children have been found to suffer from PTSD after traumatic events such as earth quake, war, terrorist attack, physical and sexual abuse, and motor vehicle accidents. The duration of symptoms, however, may vary with some experiencing the symptoms only for a short time after the trauma and some carrying the symptoms for a longer period of time causing adjustment difficulty, social impairment, and comorbid disorders (Barenbaum et al., 2004).

Considering the risks and impairment associated with PTSD, early interventions and treatment programmes for people exposed to war trauma have mushroomed in the last decade (Friedman, 2012). Despite the wealth of research regarding children exposed to trauma and disaster conducted in the recent times (Yule, 2001), there is still much contention about evidence-based and culturally sensitive interventions for children suffering from psychological difficulties after exposure to war because of a lack of methodologically sound studies (Barenbaum et al., 2004). One of the most promising and systematically evaluated interventions for PTSD in children is cognitive behavioural therapy (J. A. Cohen, Mannarino, Berliner, & Deblinger, 2000). RCTs of the efficacy of CBT group-based treatment of PTSD for refugee children are sparse. A greater understanding of the efficacy of these interventions for children exposed to war-related trauma will enable better policy, planning, and service. In response to this gap in the literature, this research was designed to investigate the efficacy and social validity of a group CBT intervention for war-exposed children suffering from PTSD and related symptoms.

This thesis includes an overview of PTSD in children and current treatment regimes, and a discussion on the findings of the three studies undertaken. The term children will be used to represent both children and adolescents aged under 18 years in this document unless otherwise specified. Chapter 2 involves a review of the prevalence and course of PTSD and comorbid disorders, psychosocial impact of war trauma, and risk and protective factors. Chapter 3 consists of a discussion on the literature of individual and group-based interventions for war-affected children experiencing trauma reactions, with a particular focus on CBT interventions. Chapter 4 outlines research gaps and the current research rationale. Chapter 5 comprises a presentation of the research methodology and findings of Study One, which is a pilot

study investigating the feasibility of the research procedure and the intervention. Chapter 6 consists of a description of the research methodology and results of Study Two, which is a cluster RCT examining the efficacy of the intervention. Chapter 7 includes a detailed description and results of Study Three, which is an exploration of the social validity of the intervention. Conclusions will be drawn in Chapter 8 by discussing the key findings from the three studies, theoretical and clinical implications, limitations, and recommendations for future studies.

Chapter 2: Literature Review

Introduction

Trauma is defined in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; DSM-IV-TR; APA, 2000) as an event (or events) which may cause strong emotions in a person, leading to the development of PTSD. When PTSD was first conceptualised, it was thought to be primarily an adult problem (La Greca et al., 2012; Yule et al., 2000). However, findings from studies that examined children's reactions to severely stressful experiences such as natural disasters and violence showed that children displayed significant stressful reactions following those experiences. In an attempt to investigate the stress reactions of children affected by war-related trauma, this review will involve a description of PTSD with a particular focus on the question of whether PTSD can be observed across cultures and in children. A brief review on disorders comorbid with PTSD, course of disorders, and psychosocial impact will also be presented. The chapter will conclude by presenting some salient risk and protective factors, and assessment tools.

2.1 Background and Definition

The first formal recognition of the concept of PTSD in psychology literature may have only occurred in the early 1980s (APA, 1980) but one of the earliest observations of PTSD-like symptoms could be traced back to the Trojan War in Greek mythology (Keane & Barlow, 2002). During the American Civil War and World War I, the terms "soldier's heart," "shell shock," and "battle fatigue" were used to describe stress reactions similar to that of PTSD experienced by military combatants (Friedman, 2012). In the early 1940s, Kardiner (1941), who worked with World War II veterans, spoke about "war neurosis", describing similar conditions observed in soldiers in earlier wars. Whilst most of the early work on trauma has focused on war veterans, Burgess and Holmstrom's description of traumatic reactions in sexual assault survivors in 1974 opened up the possibility that other traumatic life events could lead to similar stress reactions (Petrak, 2002). It was also during this time that Vietnam War veterans returned to their home countries, having

seen the horrendous aftermath of war, which brought the long-term effects of trauma to the burgeoning attention of clinicians.

The most significant aspect that distinguishes PTSD from other mental disorders is the experience of trauma (APA, 2000). Traumatic events include, but are not limited to, the experience of war, terrorist attack, motor vehicle accident, physical assault, and natural disaster that directly or indirectly threaten the life or well-being of an individual. When it was first adopted into the *DSM* (3rd ed.; *DSM-III*; APA, 1980) in the early 1980s, it was believed to be an extreme condition following exposure to extremely rare events. However, following several revisions, the *DSM-IV-TR* (APA, 2000) now defines trauma exposure as when a person “experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others” (p. 467). The distinction made by the *DSM-IV-TR* is that the individual must have reacted to the trauma with strong emotional reactions such as “intense fear, helplessness, or horror” (p. 463).

According to the *DSM-IV-TR*, the three main features of PTSD are re-experiencing, avoidance/numbing, and hyperarousal. Re-experiencing symptoms refer to ongoing experience of the events. For example, the individual may experience intrusive images, thoughts or behaviours related to the trauma in the form of nightmares or flashbacks during awakening. Friedman (2012) described a woman going to a place that resembled the setting where she was raped months earlier and reliving the experience as if she could see the attacker coming towards her when in fact there was no one around her. The second feature of PTSD is avoidance of stimuli associated with the trauma or numbing of emotions. This includes avoidance of reminders, such as people, places, thoughts, and activities, which bring back memories of the event/s. The person may also present with the inability to recall important aspects of the event/s. Numbing, on the other hand, is the inability to experience positive or negative emotions, probably used as a psychological mechanism to protect oneself from debilitating emotions. The third feature of PTSD is hyperarousal symptoms which include sleep problem (difficulty sleeping or staying asleep), exaggerated startle response, difficulty concentrating, or irritability. These symptoms could cause severe emotional distress and functional impairment to a person and significant others (APA, 2000).

2.2 PTSD Across Cultures

In the early 1990s, cultural components of disorders were formally incorporated into the *DSM-IV* (APA, 1994). Texts and descriptions about the influence of culture over symptom manifestation, assessment, and treatment planning were added throughout the manual (Mezzich et al., 1999). For example, a note on using the *DSM-IV* in cross-cultural settings was added in the Introduction section, and researchers and clinicians were encouraged to consider the cultural aspects of symptomatology when making a diagnosis. The inclusion of a glossary of culture-bound syndromes into the *DSM-IV*, which highlights various culturally-shaped symptoms common in non-Western societies, provides a reference for those working in multi-cultural settings. Although the notes and glossary added into the *DSM-IV* saw the beginning of the formal recognition of the influence of culture on symptom manifestation and meaning, it did not appear to resolve the cross-cultural validity of PTSD and more research was called for to understand the applicability of Western psychiatric diagnosis for people from diverse backgrounds (Mezzich et al., 1999).

The cross-cultural applicability of the construct of PTSD has generated much research and debate over the years. Researchers such as Summerfield (1999) argued that PTSD is a pseudocondition and criticised that the medicalisation of traumatic reactions will distance social issues and responsibility for human suffering. Muecke (1992) also warned against the danger of diverting attention from the stigma and isolation from the host society if refugee health is narrowly conceptualised using medical terminologies. Summerfield (1999) challenged the assumption that trauma reactions to traumatic events is a universal nosology and posited that the low incidence of PTSD reported in some studies showed that PTSD is limited only to people in Western culture. Summerfield also believed that war is a social and community issue rather than an individual issue and he questioned the utility of psychological interventions which only focus on the internal psychological experience of an individual. Summerfield further contended that even when PTSD symptoms are observed in cross cultural settings, it does not necessarily mean that the symptoms mean the same thing across cultures. In the same way, Rasmussen, Smith, and Keller (2007) found data collected from an African sample to adequately fit the *DSM-IV* PTSD factor structure but they contended that the outcome does not

have any implication on the cross-cultural generalisability of the meaning of the symptoms.

In contrast, researchers who investigated trauma reactions of people with culturally and linguistically diverse backgrounds have consistently observed similarity and differences across ethnic groups (Hinton & Lewis-Fernández, 2011). In preparation for the development of *DSM-5*, Hinton and Lewis-Fernández conducted a comprehensive review of studies published since 1994 that have investigated PTSD in the context of culture, race or ethnic identity. They noted the challenges of comparing these studies because of the methodology used in the studies, but concluded the applicability of PTSD across cultures based on the following: the consistency of exposure-PTSD link, similar factor structure, and the presence of intrusion and arousal across cultures. For example, the presence of PTSD following exposure to traumatic event(s) has been recorded across nations even though the rates tended to vary. Similarly, they noted the consistency of *DSM-IV* PTSD factor structure reported in most studies, but that the avoidance/numbing subscale is less consistently observed across cultures. Therefore, based on the current state of research, the authors concluded that *DSM-IV-TR* PTSD is not a concept that exists only in Western society but can be applied to individuals from other cultures.

In summary, while more studies are needed to improve the current understanding of cross-cultural variation in PTSD, PTSD can be considered to be a valid diagnosis across cultures. Summerfield (1999) may be right on his point that focusing on psychiatric issues in war-affected individuals may bring undesirable stigma on these people but the recognition of mental health issues in war-affected individuals may also facilitate social actions and advocacy for the rights of these people (Hodes, 2000). Furthermore, it was noted that although Summerfield questioned the validity of PTSD and psychological treatments as the universal label and intervention for war-exposed survivors, he acknowledged that there will be a small subgroup of individuals who will develop psychiatric illness and will benefit from psychological interventions.

2.3 PTSD in Children

Results of studies examining children's reactions to traumatic events have revealed that children do exhibit traumatic reactions similar to those of adults. The first clinician who raised this awareness was Leonore Terr. Terr worked with children who survived the Chowchilla school-bus kidnapping event in the United States in 1976 (Terr, 1981). Shortly after the event, she assessed 23 survivors aged 5 to 14 years and found symptoms similar to those reported in adult trauma survivors. These symptoms included trauma-related fear, re-experiencing of the trauma, and trauma-related nightmares. Furthermore, these children reported distinctive responses from those of adults, including re-enactment of trauma in play and the absence of flashbacks. In 1983, Terr conducted a 4-year follow-up on these children and found many of these children continued to experience symptoms present at the first assessment (Terr, 1983). Children also exhibited new symptoms, such as shame associated with the trauma and foreshortened future. These early studies led to the acknowledgement of the experience of stress reactions in children, which till then had received little formal recognition. The public notion that children will generally grow out of trauma was also challenged.

Similar to the studies conducted by Terr, McFarlane, Policansky, and Irwin (1987) investigated the trauma reactions in children who survived a bushfire in South Australia in 1983. Using a longitudinal research design, McFarlane and colleagues examined the stress reactions of children survivors at 2, 8, and 26 months after the bushfire. A total of 808 parents and teachers rated their children/students using the Rutter Questionnaires (Rutter, Tizard, & Whitmore, 1970). The number of children who scored above the clinical cutoff score at the second month ranged from 3.9% (teacher-rated) to 6.6% (parent-rated), and the figures increased significantly from the second month to the eighth month (9.1%; 16.8%). The figures were even higher at the 26th month (10.6%; 21.4%) but the increase was not statistically significant. When compared with age- and sex-matched children in the control condition, a significantly greater proportion of parents of survivors described their children to be experiencing clinical levels of symptoms at the eighth and 26th month follow-ups. Psychosocial impairment was also noted, with children exposed to the bushfire reporting significantly more days of absence from school than their control comparison. Children with more symptoms were also more likely to underachieve

academically. Symptoms that were not recorded in *DSM-III*, such as anger and somatisation, were observed in these children.

Symptoms of PTSD, depression, and anxiety have also been found to linger in children for a long period of time after exposure to trauma. D. Bolton, O'Ryan, Udwin, Boyle, and Yule (2000) interviewed 216 survivors (aged 11 to 17 years at the event) of a shipping disaster 5 to 8 years after the event and found significantly more survivors meeting the diagnostic criteria of anxiety disorders, affective disorders, or any disorders than a comparable sample. While survivors who did not develop PTSD did not differ from the comparable sample on the rates of other disorders, those who developed PTSD reported significantly higher rates of other disorders than the comparable sample. Different time of onset for PTSD, depression, and anxiety was found. For example, depression was found to develop within months to years after the incident but separation anxiety developed immediately after the incident. Some depression cases developed concurrently with PTSD but some developed a year or so later. This suggests that depression is both a traumatic response in reaction to loss and a loss of pleasure as a result of suffering from PTSD symptoms (D. Bolton et al., 2000). Furthermore, about an equal number of survivors recovered from depression before or after recovery from PTSD, indicating that children can continue to suffer from other psychological issues even after they have recovered from PTSD.

Apart from trauma-specific survivors, the prevalence of PTSD has also been investigated with general at-risk populations such as immigrants. Jaycox et al. (2002) investigated trauma reactions of non-refugee immigrant children aged 8 to 15 years living in Los Angeles. Of the total sample of 1,004 children, almost all of the children (88%) reported having experienced or witnessed violence. On average, children reported experiencing one and witnessing three violent events in America, compared to experiencing and witnessing one violent event in their country of origins. PTSD prevalence as measured by the Child PTSD Symptom Scale (Foa & Meadows, 1997) was high, with approximately 30% of the children meeting the diagnosis. More girls (33%) than boys (26%) met the diagnostic criteria of PTSD even though boys reported more violence exposure (both lifetime and 12-month witnessing and victimisation) than girls. PTSD symptoms correlated significantly with depressive symptoms and exposure to violence was associated significantly with both PTSD and depression scores. Although the addition of a control group

could have provided a clearer picture of the possibly heightened risk of immigrant children, the finding does shed light on the impact of lifetime and current trauma on children's mental health.

Large epidemiology studies that investigate the prevalence of childhood mental health issues in community samples have generally recorded lower prevalence rates compared to studies with high-risk samples discussed earlier. Using a national representative study of 4,023 adolescents (aged 12 to 17 years) living in the United States, Kilpatrick et al. (2003) found a 6-month PTSD prevalence of 6.3% for girls and 3.7% for boys. Comparatively, the 12-month PTSD prevalence rate of a nationally representative sample of adults aged above 18 years was 3.5% (Kessler, Chiu, Demler, & Walters, 2005). The higher rate of PTSD in girls was also consistent with adult studies (Creamer, Burgess, & McFarlane, 2001; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). High comorbidity was also reported, in which almost 75% of those with a PTSD diagnosis had at least one comorbid diagnosis. High comorbidity was found between PTSD and depression.

In another epidemiology study with a longitudinal design, Copeland, Keeler, Angold, and Costello (2007) followed three cohorts of 1,420 children from the ages of 9, 11, and 13 years through to 16 years with repeated parent and child assessments. They found a lifetime trauma exposure rate of 68% and PTSD prevalence rate of 0.4%. Furthermore, 9.1% of children reported re-experiencing symptoms and 2.2% of children reported partial diagnosis (i.e., endorsing at least 1 symptom of re-experiencing, hyperarousal, and avoidance). Impairments such as disrupted relationships and school problems were also reported, with higher trauma exposure associated with more impairment. The prevalence rates reported in this study is lower than those found in Kilpatrick and colleagues' (2003) study. While the differences may reflect true prevalence rates in both samples, the differences may also be attributed to the types of informant (child vs. child and parent), assessment method (telephone vs. face-to-face), and frequency of assessment (once vs. repeated annually) used in each study.

Based on the current literature, it may be reasonable to conclude that symptoms of PTSD do exist in children. Findings from these studies demonstrate the presence of PTSD and comorbid disorders in children in both community and at-risk populations. However, estimating the prevalence of PTSD is difficult because of the

different study setting, population, age, type of exposure, time since exposure, and measurement used in each study (La Greca et al., 2012). Consistent with the high rates of comorbidity in adults with a PTSD diagnosis (Kessler et al., 1995), children who experience PTSD may also experience other disorders such as depression and anxiety (Kilpatrick et al., 2003), and the cumulative effects of these symptoms have been found to cause severe disability and impairment in functioning in children (Copeland et al., 2007).

2.3.1 Developmental Considerations

Findings from studies conducted with children exposed to trauma demonstrate that children may experience trauma and manifest their reactions differently to adults (Perrin et al., 2000). Perrin et al. described that it is possible that children experience some of the symptoms differently from adults. For example, children may not experience dreams that were directly related to the trauma or experience visual flashbacks like adults.

Although age-related manifestations have been acknowledged in the *DSM-IV* since the early 1990s, researchers have continued to advocate for developmentally sensitive PTSD diagnostic criteria. Using a sample of 114 children (aged 2 to 10 years) who survived a motor vehicle accident, Meiser-Stedman, Smith, Glucksman, Yule, and Dalgleish (2008) compared the validity of the *DSM-IV* criteria with an alternative algorithm in diagnosing PTSD. In the alternative algorithm, the criterion for intense emotions during exposure was removed and the number of symptoms required to meet the criterion for avoidance symptom cluster was dropped from three symptoms to one symptom. They reported that the alternative algorithm was more sensitive and has better predictive validity of the long-term outcomes than the *DSM-IV* criteria when diagnosing preschool children aged 2 to 6 years using parent reports. The prevalence rates of parent-reported acute stress disorder (2.6%) and PTSD (1.9%) according to the *DSM-IV* criteria were substantially lower than the prevalence rates generated from the alternative algorithm, 11.5% and 13.9%, respectively. The authors reported that the higher rates of PTSD based on the alternative algorithm were not likely to be a result of its requirement for the endorsement of fewer symptoms because there were no significant differences in the mean number of symptoms for positive cases between the algorithms. For children aged 7 to 10 years

using child and parent reports, the *DSM-IV* criteria were found to have a better predictive validity than the alternative algorithm. Therefore, it appears that a modified algorithm should be used for the diagnosis of PTSD in young children.

The cognitive model of PTSD focuses on information processing and constitutes one of the most influential PTSD theories used to direct current treatments. However, Salmon and Bryant (2002) reminded us that children of different ages and developmental stages are likely to possess different levels of cognitive and information processing abilities (appraisals of trauma, language ability at the time of encoding, ability to express and to engage in discussion, understanding of emotions, ability to manage unwanted thoughts, and memory retrieval ability). These abilities influence their encoding, processing, and expression of an experience, which will ultimately affect their traumatic reactions and their ability to benefit from any form of intervention. Therefore, these differences should be considered when applying the adult cognitive model of PTSD in children.

Some researchers have argued that a different framework is needed to understand the experience of trauma reactions in children. Pynoos, Steinberg, and Piacentini (1999) proposed a complex four-factor model of trauma reaction for children which considers childhood trauma in the context of child characteristics (e.g., temperament), proximal trauma reminders (e.g., internal and external reminders), proximal secondary stresses (e.g., changes in family), and child ecology (e.g., family and school). It was explained that an integrative model which incorporates trauma exposure, factors within the children, and social-environmental factors would better explain the development and facilitate the treatment of PTSD in children because a wide range of adaptation and responses occur in the individual, familial, and societal level.

From the perspective of attachment theory, Punamäki (2002) discusses the mechanism through which attachment style influences a child's reaction and coping strategies when trauma occurs. Consistent with Salmon and Bryant (2002), Punamäki explained that children are both protected from and vulnerable to trauma, depending on their emotional, cognitive, and behavioural stages. For example, while adolescents have more advanced cognitive abilities to process their experience, the salient sense of invulnerability in this age group may contribute to risk-taking behaviour during conflicts. Furthermore, the attachment style children have with

their parents or carers from an early age affects their world view, interpretation of external stimuli, affect regulation, and reaction to dangers and threat. For example, securely attached children are believed to have a realistic interpretation of danger, are interested to seek support and help, have a wider repertoire of coping strategies, and thus adjust better in the context of danger. At the other end of the spectrum, children with a disorganised attachment pattern are believed to have higher risk of psychiatric disorders because they are prone to catastrophic appraisal, impulsivity, and poor coping.

In summary, current findings indicate that developmental limitations of children should be taken into consideration when exploring their responses to trauma. The presence of PTSD and associated symptoms in war-affected children will be discussed in the next section.

2.4 War-affected Children

The serious psychiatric condition of war veterans, the inclusion of PTSD into the formal diagnosis criteria of the *DSM-III* in the early 1980s and the emergence of the global human rights movement (Steel, Steel, & Silove, 2009) are pivotal in the increasing documentation of the consequences of violence, organised crime, and war in the last 30 years. An at-risk group that has received much attention from practitioners and scholars is people who have been affected by war and armed conflict. A person who is affected by war may flee his/her home and becomes a refugee, internally displaced person or an asylum seeker (United Nations High Commissioner for Refugees, 2009). For the purpose of this thesis, the term “war-affected” and “refugees” will be used interchangeably to represent children affected by war-related trauma. This section will involve a brief description of the prevalence rates of PTSD and comorbid disorders in war-affected children, the course of the disorders, and the psychosocial impacts.

2.4.1 PTSD and Comorbid Disorders in War-affected Children

A substantial amount of literature conducted by researchers to investigate the well-being of children directly or indirectly affected by war-related trauma has recorded the presence of PTSD and other disorders in war-affected children (Barenbaum et al., 2004; Yule, 2002). However, the heterogeneity of the literature

renders it difficult to conclude the percentage of children who develop PTSD as a result of exposure to war trauma. For the sake of presenting an overview of the presence of PTSD in war-affected children, this section involves a discussion of studies conducted with war-affected children from different regions living in post-war areas or resettled in developed nations.

The Gaza Strip is a region between Israel and Egypt with a high density of refugees (A. A. Thabet, Abed, & Vostanis, 2004). Using a sample of 403 Palestinian children (aged 9 to 15 years) living in refugee camps in the area, A. A. Thabet et al. examined the presence of PTSD and depression and found 24% of the children with symptoms that will likely meet a diagnosis of PTSD. The most common symptoms reported as occurring frequently included difficulty concentrating, avoidance of reminders, guilt, and intrusive images and thoughts. Depression symptoms were also reported by the children, with crying, feeling tired, loneliness, and difficulty concentrating being some of the most frequently endorsed symptoms. PTSD and depression scores correlated significantly with each other and children who scored within the clinical range of PTSD were found to have significantly higher depression scores compared to children within the non-clinical range.

As part of the United Nations Children's Fund rehabilitation project after war in Bosnia-Herzegovina, Smith, Perrin, Yule, Hacam, and Stuvland (2002) investigated the presence of PTSD, anxiety, depression, and grief in a large sample of 2,976 children (aged 9 to 14 years) living in Mostar two years after war has ceased. All of the children reported traumatic exposures, including seeing family members go to fight in war, experiencing shelling, and staying in a basement to avoid shelling. An elevated psychological profile was found, with 52% of the children meeting the threshold for a diagnosis of PTSD and 15% for depression. Grief was also reported among the children, with many reporting thinking and crying about the loss of their loved ones. An interesting note was that the mean anxiety and depression scores of the overall sample remained within the normal range. The researchers suggested that this was most likely due to increased coping strategies after prolonged war exposure or that the measure was simply insensitive enough to pick up trauma-related reactions.

A lower rate of PTSD but a higher rate of depression was reported in another study involving similarly aged Bosnian children. Using the same outcome measures,

Papageorgiou et al. (2000) surveyed 96 Bosnian children (aged 8 to 13 years) living with host families in Northern Greece and found 28% reported clinical levels of PTSD symptoms, 47% depression symptoms, and 23% anxiety symptoms. The rates of depression and anxiety reported in this study were higher than those of Smith and colleagues (2002). The differences may be associated with the characteristics of the study samples considering that these two studies were conducted in different settings. Children in Papageorgiou and colleagues' study were living in a host country but children in Smith and colleagues' study were living in their country of origin. Furthermore, children in Papageorgiou and colleagues' study had lost their significant adult carers whereas children in Smith and colleagues' study remained with their parents. This shows that the mental health outcomes of war-affected children could be affected by a number of factors which should be taken into consideration when reviewing the literature.

Due to the huge influx of refugees into developed countries and the subsequent awareness of the mental health needs of this population, a large number of refugee studies have been conducted in host countries, which are mainly developed Western nations. The influx of Bosnian refugees into the United States in the early 1990s provided the context for Weine et al. (1995) to investigate the mental health of refugees resettled in the country. They interviewed 20 recently arrived Bosnian refugees (aged 13 to 62 years) using a PTSD symptom checklist and found 65% met the criteria for PTSD. Other disorders such as major depressive disorder and panic disorder were also present, with 75% of the sample reporting at least one diagnosis. An interesting finding was that despite the high number of respondents meeting the criteria for PTSD, none of the six respondents under the age of 18 years met the PTSD diagnosis. Whilst it was unclear whether these adolescents fled with their parents and thus were shielded from the effects of war, the authors suggested that the better outcomes in these adolescents may also be related to their lower level of exposure compared to the adults because older Bosnians were targeted in the genocide. This was consistent with Weine and colleagues' observation that older adults reported a higher level of exposure than younger adults.

In contrast, in a study conducted with children resettled in the United Kingdom, a substantial number of children were found to meet the diagnostic criteria of PTSD (Heptinstall, Sethna, & Taylor, 2004). A total of 40 refugee children (aged

8 to 16 years) were recruited from both clinical mental health services (13 children) and the community (27 children). Apart from pre-migration trauma, post-migration stressors such as worry about welfare of family in the home country and language barriers were identified. Based on self-reports, about 63% and 13% of children respectively reported PTSD and depressive symptoms that were likely to constitute a diagnosis. In addition, the relatively high proportion of children from the community (45%) scoring above the cutoff point compared to children referred to mental health services (85%) demonstrated that some children in the community needing support have not received the appropriate assistance.

In Australia, a prevalence study was conducted by McKelvey et al. (2002) to determine the prevalence of psychological disorders in a sample of 519 Vietnamese children resettled in Australia. Diagnostic clinical interview was used to interview the children and their parents. An 18% prevalence of psychiatric disorder was reported. The prevalence rate reported in this study was somewhat lower than the rate of 32% found in an earlier Vietnamese study conducted in Australia (Krupinski & Burrows, 1987). The authors explained that the differences may be attributed to the characteristics of the participants in this study. In particular, less than 50% of the children in this study were born in Vietnam compared to 100% of the children in Krupinski and Burrows' study. Furthermore, only 5% of the children in this study have been exposed to traumatic events.

Instead of describing symptomatology in refugee children, some researchers have attempted to provide a direct comparison of the mental health outcomes of war-affected children with children who have not been exposed to war. Paardekooper, de Jong, and Hermanns (1999) interviewed 316 Sudanese refugee children and 80 Ugandan children (who have never been exposed to war) living in Uganda. Although both groups have similar demographic and tribal background, Sudanese refugee parents reported exposure to more traumatic events for their children than their Ugandan counterpart. In addition, Sudanese refugee children reported significantly more daily stresses compared to the Ugandan non-refugee children. Similarly, refugee children were found to experience more trauma reactions, aggression, and depression than non-refugee children. Refugee children also reported a wider repertoire of coping strategies compared to non-refugee children. For example, refugee children reported using more emotional inhibition strategies such as self-

blame and keeping quiet, emotional focused strategies such as spending time with others, and wishful thinking strategies such as wishing that bad things had never happened than non-refugee children. The wide range of coping strategies used by these refugee children may indicate that these children were utilising whatever resources that were available to them to improve their situations. However, the impact of these coping strategies on their long-term well-being is unclear.

Similar findings were replicated in a Canadian study. Tousignant et al. (1999) compared refugee children resettled in Quebec (a minimum of 3 years) with mainstream children living in the same region and found that the rates of psychological disorders in refugee children were significantly higher than those of local children. Diagnostic clinical interviews were employed. The number of refugee children meeting any diagnosis was higher (31%) than the mainstream children (20%). Except generalised anxiety, refugee children reported a higher rate of diagnosis in all disorders compared to mainstream children. For example, 5% of refugee children met the diagnosis for major depression but only 3% of mainstream children met the same diagnosis. More than half of the children with a diagnosis reported moderate to high impairments. Specifically, major depression, conduct disorder, and dysthymia were associated with significant impairments. PTSD was not assessed because the majority of the children had not been exposed to war (Tousignant et al., 1999).

Different psychological outcomes were also observed between children who have not lost their parents and children who have lost their parents to war. With a sample of 1,170 accompanied and 124 unaccompanied refugees (aged 11 to 18 years) resettled in Belgium, Derluyn, Mels, and Broekaert (2009) found unaccompanied children exposed to significantly more traumatic events than accompanied children. Unaccompanied children also reported more symptoms of depression and PTSD compared to accompanied children. Using the 80th percentile as the clinical cutoff, the number of accompanied children scoring above the clinical cutoff ranged from approximately 14% (externalising problems) to 20% (anxiety). However, higher rates of mental health problems were found in unaccompanied children, ranging from approximately 20% (externalising problems) to 60% (PTSD). In an American study, lower quality of life was also experienced by unaccompanied refugee children who met the diagnostic criteria of PTSD (Geltman et al., 2005).

The rates of PTSD in war-affected peoples have also been estimated in larger meta-analysis studies. Fazel, Wheeler, and Danesh (2005) conducted a meta-analysis of studies that have investigated the mental health outcomes of adult and child refugees living in developed countries and reported a PTSD prevalence rate of 11% in refugee children, with the 99% confidence interval ranging from 7% to 17%. In addition, the authors reported an adult depression prevalence rate of 5%, with the 99% confidence interval ranging from 4% to 6% but no such data were reported for children due to the absence of relevant child studies. Although this meta-analysis provided a systematic review of the studies that have examined the prevalence of PTSD in refugee children, it is important to remember that only five child studies were included in the analysis and the total sample size was small ($N = 260$). Nonetheless, this review does provide a summary of the state of current research involving refugees resettled in Western countries and the scarcity of research investigating the mental health of refugee children.

A more recent review involved studies conducted between 2003 and 2008. Although not quite a meta-analysis, Bronstein and Montgomery (2011) provided a systematic review of the recent epidemiology studies published after Fazel et al. (2005). The review included 22 studies (8 studies reporting on the same sample) that examined the mental health of refugee children (aged under 25 years) and like Fazel et al., Bronstein and Montgomery, focused on children residing in developed countries. Based on seven studies ($N = 2,124$), the proportion of children scoring above the clinical cutoff score of PTSD ranged from 19% to 54%. The prevalence rate of depression based on three studies ($N = 599$) ranged from 3% to 30%. These rates are higher and have greater variability than those estimated in Fazel and colleagues' meta-analysis. A primary distinction between Bronstein and Montgomery, and Fazel and colleagues' study is that Bronstein and Montgomery included studies that employed self-report measures, whereas Fazel and colleagues employed studies that relied on structured clinical interviews. Bronstein and Montgomery explained that self-reports produce more accurate reports of distress because children from different cultures are likely to report culture-specific distress and thus assessor's misunderstanding may be avoided.

In sum, different rates of psychological symptoms have been observed across studies in the literature. These studies have involved children of different ages,

countries of origin, exposure profile, and stages of flight. Whilst PTSD appears to be the primary psychological symptoms reported by these children, depression and anxiety are commonly observed. A more comprehensive review of the impact of war or armed conflicts on children can be found in Bronstein and Montgomery (2011), Fazel and Stein (2002), Lustig, Kia-Keating, et al. (2004), Machel (2001), and Pumariega, Rothe, and Pumariega (2005). The next section will discuss the course of PTSD in war-affected children.

2.4.2 Course of Psychological Issues in War-affected Children

While there is generally a trend of improvement over time within the course of PTSD in children (La Greca et al., 2012; Yule et al., 2000), findings from some longitudinal studies have revealed the chronic course of psychological issues in some children. Dyregrov, Gjestad, and Raundalen (2002) assessed children who survived the Gulf War at 6 months, 1 year, and 2 years after the war and found a similar number of children meeting the diagnostic criteria for PTSD at each time point. About 80% of the children reported symptoms likely to meet the clinical diagnosis of PTSD at 6-month post-war, and this number increased to approximately 90% in the second year (around the anniversary of an attack) but returned to 80% at the 3-year follow-up.

In Rwanda, a strikingly high rate of psychological symptoms was still present in the survivors of a genocide 10 years after the event. Schaal and Elbert (2006) investigated the long-term effects of the Rwanda genocide using a sample of 68 orphans aged 13 to 23 years. They found almost half (44%) of the sample reported PTSD symptoms in the last 12 months that met the diagnostic criteria. Of the total sample, all reported experiencing at least one re-experiencing symptom and about 60% reported at least 3 avoidance/numbing symptoms or at least 2 arousal symptoms. Risk factors were investigated in the study and females, older children, higher number of traumatic events, and living in a child-headed household were associated with higher symptom scores. Even though the cumulative effects of ongoing life stressors on their symptoms were not investigated in the study, the rates of PTSD in these adolescents nonetheless demonstrated that the adolescents continued to suffer even a decade after their exposure.

The long-term mental health outcomes of war-affected children have also been studied in the context of refugees resettling in host countries. In Sweden, Almqvist and Brandell-Forsberg (1997) examined the mental health of a group of preschool Iranian refugee children at one year and three-and-a-half years post-arrival. Semi-structured interviews with parents and thorough observations and interview assessments with children were conducted. At one year post-arrival, about 50% showed re-enacting play and the most prominent behavioural problems observed by parents were anxiety and over-dependency. Twenty percent of the children met the full PTSD criteria. At 3.5 years post-arrival, about 40% showed re-enacting play and the most frequent problems described by parents were aggression, fear, and over-dependence. In addition, children who reported symptoms but did not meet full diagnosis at initial assessment reported fewer symptoms at 3.5 years post-arrival. However, 20% of the children still met PTSD diagnosis at 3.5 years post-arrival, most of whom were diagnosed at the initial assessment. An interesting finding noted by the authors was that parents tended to under-report re-experiencing symptoms due to either denial or misappraisal.

Similar findings were replicated in a longitudinal study involving 234 Palestinian children (aged 7 to 12 years) living in Gaza Strip shortly after the end of conflicts (A. A. Thabet & Vostanis, 2000). Self-report PTSD checklist and parent-rated and teacher-rated emotional and behavioural problems were assessed at 6 months and 18 months after the conflict. There was a general trend of improvement, with all outcome measures reduced significantly from baseline to the second assessment. There was also a significant reduction in the percentage of children who experienced moderate to severe PTSD, from 40% at baseline to 10% at the second assessment. About 30% of the children were rated by their parents as demonstrating a possible mental health disorder at baseline, but only 20% remained in this category at the second assessment even though the reduction was not statistically significant. A similar trend was reported by the teachers. These results showed that children can recover from PTSD especially when conflicts have ceased. However, at the same time the subsample (20%) of children who were still experiencing relatively high symptoms of PTSD indicated that some children do not recover in a short period of time. The authors found long-term PTSD symptoms to be predicted by the total

number of traumas, but hypothesised that post-war stressors could impose additional stresses on the children.

Similar improvement was observed in another study using a longer follow-up. Kuterovac-Jagodic (2003) examined the mental health outcomes of a sample of 252 Croatian children (mean age at baseline = 10 years 10 months) during war and 30 months after war had ceased. Kuterovac-Jagodic found a significant reduction in the number of PTSD symptoms from baseline to follow-up. Furthermore, there were significantly smaller proportions of children reporting moderate and severe symptoms at follow-up (54% and 10% respectively) compared to baseline (59% and 25% respectively). Despite the improvement, the correlation of PTSD symptoms at baseline and follow-up ($r = .29$) showed the stability of the symptoms over time. Parent reports were not obtained in this study.

Some symptoms of PTSD may be more long-lasting than other symptoms. In a 5-year longitudinal study of a sample of 81 Israeli children (aged 8 to 10 years at baseline) who survived the Gulf war, Laor, Wolmer, and Cohen (2001) found a general improvement in these children from 6-month to 30-month and 5-year follow-ups, with significant improvements in the child-reported stress level, externalising symptoms, and PTSD arousal symptoms. There was a significant increase in PTSD avoidance symptoms and no significant changes in PTSD intrusive symptoms. Although one-third of the children improved in their PTSD severity rating from 30-month to 5-year follow-up, two-thirds of the sample remained in their initial severity category or deteriorated. Taken together, these findings suggest that some symptoms of PTSD may be more persistent than others. The authors also hypothesised that the reason avoidance symptoms did not reduce over time was because they remained pertinent for the management of intrusive symptoms.

In sum, findings from studies that have investigated the long-term mental health outcomes of children exposed to war can generally be divided into two broad categories: studies that found improvement over time and studies that found maintenance or deterioration over time. Considering the short- and long-term impacts of trauma exposure on children's mental health, it may be wise to understand the extent of its impact on children's functioning. The next section presents a brief discussion on the psychosocial impact of PTSD and associated symptoms in war-affected children.

2.4.3 Psychosocial Impact

Probably due to the chronic nature of PTSD, a reasonable number of studies involving war-affected children have primarily focused on psychological symptoms and neglected psychosocial functioning of these children (Felsman, Leong, Johnson, & Felsman, 1990; Fernando, Miller, & Berger, 2010). One of the few studies that has conceptualised mental health outcomes of war-affected children beyond PTSD was conducted by Fazel and Stein (2003). Fazel and Stein compared the functioning of refugee children (aged 5 to 18 years) resettled in the United Kingdom with age- and sex-matched ethnic minority and mainstream children using the teacher-rated Strengths and Difficulties Questionnaire (SDQ; Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). Based on the total difficulties and impact scores, more refugees (27%; 95% confidence interval ranged from 19% to 36%) than ethnic minorities (9%; confidence interval ranged from 5% to 16%) and mainstream children (15%; confidence interval ranged from 9% to 23%) fell in “caseness” category.

These findings are consistent with that of Leavey et al. (2004) who compared the functioning of migrant/refugee children resettled in London with local children. Instead of asking teachers to complete the SDQ (Goodman et al., 2000), 329 students (aged 11 to 16 years) completed the questionnaire with assistance from researchers. Results showed that more migrant children (8%) fell in the “high need” category compared local children (4%). In addition, younger (aged 11 to 13 years) and male migrant children reported significantly higher total difficulties and emotional problems scores than local children. Migrant children across the age and sex groups were also found to experience significantly more peer problems than their local counterparts. In contrast, children born in the country reported significantly more conduct problems, more hyperactivity, and less pro-social behaviour than migrant children. Compared to non-refugee migrant children, refugee migrant children experienced greater peer problems. Children whose first language was not English also reported more emotional problems, peer problems, and total difficulties compared to other children. Although the findings may not represent the actual functioning of refugee children resettled in the United Kingdom given that the sample consists of only 61 refugees, the findings demonstrated the migrant children may experience more emotional and behavioural problems compared to local children.

Psychological symptoms are likely to affect one's quality of life. In a sample of 65 Palestinian children, Quota, Punamäki, Montgomery, and El Sarraj (2007) found significant negative correlations between life satisfaction and stressful life events, PTSD, and depression. Life satisfaction was conceptualised as perceived satisfaction in relation to health, social relationship, emotional fulfilment, and vitality. When predictors such as exposure, individual characteristic, and family variables were entered into a regression model, only ongoing stressful life events (e.g., health problems and financial difficulties) and exposure to military trauma (happened 3 years ago) significantly predicted life satisfaction, explaining 20% of variance in life satisfaction. The results demonstrated that exposure to war trauma can have a negative impact both on children's mental health and quality of life.

In order to investigate the impact of war on children's academic ability and performance, Elbert et al. (2009) interviewed 420 Sri Lankan children (aged 10 to 14 years) and their parents using teacher-administered structured questionnaires. Almost all (90%) children reported exposure to traumatic events, including combat experience, witnessing bombing, and witnessing the death of a person. Using a child-rated and parent-rated PTSD checklist, 29% and 27% children respectively reported clinical levels of PTSD symptoms that caused functional impairments. Clinical expert interviews further diagnosed anxiety disorders in 8% of the children without PTSD and comorbid disorders in 12% of the children. Compared to those who did not develop PTSD, more children with PTSD met the diagnostic criteria of anxiety (12% vs. 8% without PTSD), depression (41% vs. 4% without PTSD), and headache (70% vs. 53% without PTSD). Poorer recall on a neuropsychological testing was also evident in children with PTSD, compared to children without PTSD. In terms of academic performance, no differences were found between children with and without PTSD on mathematics, physical education, and handwork subjects but children with PTSD demonstrated significant impairments in language subjects compared to children without PTSD. An interesting finding noted by the authors was that the impairment in functioning increased with the number of traumatic exposure regardless of whether PTSD criteria were met.

To further investigate the manifestation of distress in refugee children, Jones and Kafetsios (2002) investigated the pattern of distress through self-report checklist and qualitative observations. A total of 337 Bosnian adolescents (aged 13 to 15

years) living in post-war Bosnia completed the assessment and were categorised as “well” or “less well” using qualitative information from parent-, teacher- or self-reports, researcher observation, and school performance. Results showed a clear correlation between self-report symptom checklist and qualitative description of emotional distress, with 80% of adolescents classified as “well” on a qualitative measure reporting low symptom scores and 65% identified as “less well” on qualitative measure reporting high symptom scores. However, there was a 20% mismatch between symptom checklist and qualitative description, which means that that symptom checklist is not a perfect representation of one’s subjective feelings. It is probable that the mismatch may have been caused by a design limitation because the qualitative observations and self-report assessments were not conducted concurrently. In addition, school performances were not correlated with either quantitative or qualitative measures of well-being, indicating that academic function alone may not be a good indication of well-being, confirming findings of other studies (e.g., Elbert et al., 2009). Taken together, the findings of this study demonstrate that self-report symptom checklists can be used as an indication of symptom severity in refugee children but may not be a good indicator of their subjective well-being.

In contrast to researchers who found significant psychosocial impairments in war-affected children, some researchers have found the opposite. In these instances, children with PTSD have been observed to continue to function and carry out their daily responsibilities after exposure to war or conflicts. Mollica, Poole, Son, Murray, and Tor (1997) conducted a household survey of 182 Cambodian adolescents (aged 12 to 13 years) living in a Thai refugee camp and found regular school attendance among the children even though 50% of them were rated by their parents to be experiencing clinical ranges of internalising and externalising problems. Less than 10% of the children (according to child- and parent-reports) were described as functionally impaired due to health problems. It seems that on one hand, these children experienced clinical ranges of internalising and externalising problems, such as somatic problems, social problems, withdrawal, aggression, anxiety, and depression, but on the other, they were able to carry out daily functioning reasonable well.

Another study conducted with war-affected Iraqi children observed a similar pattern. Ahmad, Sofi, Sundelin-Wahlsten, and von Knorring (2000) assessed a sample of 45 Iraqi children (aged 7 to 17 years) displaced with their families about five years after a military operation and found 87% of the children reported symptoms that will likely meet the diagnostic criteria of PTSD. However, all of these children continued to attend school and some worked to generate money for their family. These findings demonstrated that PTSD did not impede the functioning of these children, although the functioning of these children in other aspects was not investigated.

The less-than-perfect correlation between the presence of psychological symptoms and functioning impairment has also been observed in treatment studies. Oras, de Ezpeleta, and Ahmad (2004) provided Eye Movement Desensitization and Reprocessing treatment for 13 refugee children (aged 8 to 16 years) who met the clinical diagnosis of PTSD and assessed treatment outcome using psychiatrist-rated PTSD, depression, anxiety, and somatic symptoms, and general functioning. Significant reductions on PTSD and depression symptoms, and general functioning were reported at post-treatment; however, improvement in general functioning correlated significantly only with improvements in depression symptoms and non-*DSM*-specific PTSD symptoms. Improvement in PTSD symptoms, such as avoidance, re-experiencing, and hyperarousal, was not correlated with improvement in functioning. It seems that psychosocial functioning impairment may not necessarily be associated with PTSD but could be associated with other disorders, such as depression or anxiety. In fact, researchers have found PTSD and depression to have a different pattern of association with functional impairments (Momartin, Silove, Manicavasagar, & Steel, 2004; Pat-Horenczyk, Abramovitz, et al., 2007; Pat-Horenczyk, Peled, et al., 2007).

In a study involving Bosnian refugees resettled in Australia, Momartin et al. (2004) found that those with non-comorbid PTSD did not function differently from those without a diagnosis but those with comorbid PTSD and depression reported significantly more functional impairment than those with non-comorbid PTSD and those without a diagnosis. In a study involving Israeli children exposed to recurrent armed conflicts, Pat-Horenczyk, Abramovitz, et al. (2007) reported that 20% of the sample exhibited functional impairment in at least one area of their life but only

7.6% of the sample reported probable PTSD. Findings from these studies suggest that there is a non-linear relationship between PTSD symptoms and functional impairment, and that children with PTSD symptoms may function like children without PTSD symptoms.

In sum, current literature shows that children with PTSD symptoms are capable of participating in daily activities, including attending school. Researchers have also found that functional impairment may not be directly related to PTSD but could be associated with other disorders such as depression. These findings point to the importance of conducting comprehensive assessments that examine psychological symptoms as well as psychosocial functioning.

2.5 Risk and Protective Factors for PTSD Symptoms

Several conceptualisations of PTSD, such as Pynoos and colleagues' (1999) developmental psychopathology model, and Brewin, Dalgleish, and Joseph' (1996) and Ehlers and Clark's (2000) cognitive models, have been adopted to understand the development and maintenance of PTSD in children. However, attempts to understand the experience of PTSD and related symptoms in war-affected children should also consider other factors, including the effects of cumulative trauma (pre- and post-migration), socio-political situations, and cultural factors (K. E. Murray, Davidson, & Schweitzer, 2008). According to a large meta-analysis of 59 refugee studies ($N = 67, 294$) published up to 2002, refugees scored 0.41 standard deviation lower than non-refugees on the indices of mental health, suggesting that refugees had moderately poorer mental health outcomes than non-refugees (Porter & Haslam, 2005). Gender, age, economic and education status before displacement, stages of conflict and repatriation, and post-war living arrangement and economic opportunities were significant moderators of the mental health of refugees relative to non-refugees.

In a meta-analysis of 64 child PTSD studies ($N = 32, 238$) examining 25 risk factors for PTSD in children, large effect sizes were observed for many peri- and post-trauma individual and ecological factors, including thought suppression, PTSD symptoms at baseline, distraction, poor family functioning, comorbid disorders, social withdrawal, perceived life threat, peri-trauma fear, and low social support (Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2011). On the contrary, small

to medium effect sizes were observed for other factors, particularly pre-trauma factors (e.g., low intelligence and parental psychological problems), objective characteristics of trauma (e.g., time since exposure), and demographic factors (e.g., female gender and low intelligence).

Results from these meta-analyses seem to suggest that the way an individual respond and adapt to a traumatic experience depends on a host of pre-trauma and post-trauma factors at both individual and ecological levels. Although it is beyond the scope of this section to provide a comprehensive review of all of the risk and protective factors for PTSD in war-affected children, the following section will provide a brief review of several common risk and protective factors identified in the literature.

2.5.1 Exposure to Trauma and Ongoing Stressors

Exposure to trauma. Exposure to trauma is acknowledged to be the precursor of PTSD (APA, 2000). The predictive power of exposure on psychological outcomes and the correlations between exposure and psychological outcomes have been demonstrated across many studies. In general, a dose-response relationship between exposure and traumatic reactions portrays the idea of rising problems with rising risks (e.g., Daley, 2005; Kumar, 2011; Kuterovac-Jagodic, 2003; Lie, 2002; Masten & Narayan, 2012; Schaal & Elbert, 2006; A. A. Thabet & Vostanis, 2000; A. A. M. Thabet & Vostanis, 1999). For example, A. A. Thabet and Vostanis (1999) found the number of traumatic events to correlate strongly and positively with the number of PTSD symptoms in a sample of war-affected Palestinian children, suggesting a dose-response relationship between exposure and reactions. However, among all other traumatic events, witnessing a friend being beaten, experiencing tear gas attack, and experiencing day raids were the best predictors of PTSD, and this finding perhaps suggested that certain types of traumatic exposure may have a more severe impact than others.

Similarly, Schaal and Elbert (2006) examined the distress level of 68 adolescents and young adults (aged 13 to 23 years) ten years after the Rwanda genocide and as expected they found a significant correlation between the number of traumas experienced and the severity of PTSD. An interesting finding was that witnessing the murder of a parent and believing that oneself will be killed stood out

as the exposure factors that correlated strongest with PTSD symptoms. Specifically, 60% of children who witnessed the murder of their parents and 50% who believed they would die fulfilled PTSD criteria. Among all traumatic experiences reported by these children, witnessing a massacre, hiding under dead bodies, witnessing the murder of one's parent, and believing that one would die had the strongest associations with the number of PTSD symptoms.

A probable explanation for the differential impact of the traumatic events may be related to the subjective appraisal of the events. In a sample of about 3,000 war-affected Bosnian children (aged 9 to 14 years), Smith et al. (2002) found perceived life threat predicted PTSD, depression, and anxiety symptoms more strongly than other types of exposure. These findings portray that trauma appraisal rather than exposure per se may have a greater influence on an individual's adaptation following exposure to traumatic events.

Exposure to ongoing stressors. The effects of post-conflict stressors have also been investigated among refugee children who had to resettle in a new country. Using a sample of 40 refugee children (aged 8 to 16 years) resettled in London, Heptinstall et al. (2004) found that apart from pre-migration trauma, post-migration trauma also correlated significantly with distress. For example, parent-reported pre-migration and post-migration trauma correlated significantly with children's PTSD. However, only post-migration trauma correlated significantly with depression. Among the types of trauma, experiencing the violent death of a family member and insecurity about visa applications had a particularly strong influence on PTSD; whereas financial difficulty in the host country was related to higher depression symptoms.

The seemingly different pathways of PTSD and depression reported by Heptinstall et al. (2004) were also observed by Ellis, MacDonald, Lincoln, and Cabral (2008). Ellis et al. found PTSD and depression in Somali adolescents resettled in the United States to be significantly predicted by exposure to trauma and perceived discrimination. However, the exposure-depression association (partial $r = .33$) was weaker than the exposure-PTSD association (partial $r = .19$). Furthermore, acculturative stress and resettlement stress (e.g., housing and interpersonal stressors) were significantly associated with PTSD but not depression. These findings are in

parallel with the findings of Fernando et al. (2010) who found daily stressors such as abuse and deprivation significantly mediated the relationship between exposure to war trauma and distress in a sample of Sri Lankan children.

These findings are also consistent with Almqvist and Broberg's (1999) findings from a sample of refugee preschool children resettling in Sweden. Almqvist and Broberg found that after living in Sweden for three years, about 30% of the parents were worried about the adaptation and well-being of their children and over 50% of the children expressed dissatisfaction with school. Post-migration conditions such as not having peers to play with and being bullied were associated with a lower rating of adaptation and lower self-worth. In addition, the length of residency in Sweden and peer relationships was significantly associated with social adjustment, indicating that acculturation and language skills may facilitate better outcomes in refugees who resettled in a new country.

Findings from these studies are crucial to our understanding of the well-being of refugee children because children who are forced to resettle in a new country are at risk of acculturative stress, ongoing separations, discrimination, and have to learn new experiences and develop new support relationships (Brymer, Steinberg, Sornborger, Layne, & Pynoos, 2008). In a study investigating the experience of Sudanese students resettling in Australia, students reported challenges with learning English, teaching style in school, and social and academic isolation and anxiety (Brown, Miller, & Mitchell, 2006). Similar struggles were identified in a larger study involving 76 mixed-ethnic refugee children living in Brisbane, Adelaide, and Perth (Brough, Gorman, Ramirez, & Westoby, 2003). From the interviews, it was clear that the well-being of these students is mediated by their past experience. Salient themes deduced from the interviews included pre-migration trauma (in their country and journey to Australia), the difficulties of initial settlement, acculturation process, post-traumatic reactions, anxiety about family in the home country, family and relationship problems, and discerning appropriate channels for help.

2.5.2 Age

The relationship between age and trauma is inconclusive, with studies demonstrating higher risk in older children (e.g., Schaal & Elbert, 2006), in younger children (e.g., Dyregrov et al., 2002) or no differences (e.g., Derluyn et al., 2009;

Fernando et al., 2010; Montgomery, 2010). In Smith and colleague's (2002) study of 2,976 Bosnian children (aged 9 to 14 years) living in Mostar 2 years after war, grief and total PTSD scores were not correlated significantly with age but weak correlations were established between age and arousal subscale of PTSD, depression, and anxiety symptoms. Age also correlated with the level of exposure and exposure with PTSD symptoms. Even after accounting for exposure and gender, age remained a significant but small mediating factor of PTSD, depression, and anxiety symptoms.

In a longitudinal study, Dyregrov et al. (2002) examined the symptoms of PTSD in war-affected Iraqi children (aged 6 to 17 years at baseline) from 6 months ($n = 214$) to 1 year ($n = 182$) and 2 years ($n = 104$) after war. Younger children (aged 6 to 9 years) were found to experience significantly lower intrusion symptoms one year after war compared to older children but older children (aged 14 to 17 years) made the most progress in the reduction of intrusion symptoms from the first to second year compared to younger children. The authors explained that older children may have greater cognitive ability to juggle both avoidant behaviour and intrusive experience, evidenced by the associations between intrusion and avoidance symptoms across the three time points in the study, which enabled them to process their intrusive memories. However, the effects of age were not statistically significant when exposure and gender were controlled for in a structural equation model.

Apart from advanced cognitive abilities, older children may demonstrate better prognosis because they were more independent from their carers compared to younger children. Laor et al. (2001) assessed the psychological functioning of 81 families five years after the Gulf War and found that children's symptoms correlated significantly with their mother's symptoms, defence style, and ability to relate securely. For example, children's internalising score correlated significantly and positively with their mother's avoidance score. In addition, children's PTSD symptoms correlated significantly and negatively with their mother's ability to relate and form secure attachment. A more important finding was that the symptoms of younger children (aged 8 years) correlated more strongly with their mother's symptoms, compared to older children (aged 9 to 10 years).

In contrast, Schaal and Elbert (2006) found higher symptoms in older children and more older children meeting the diagnosis of PTSD. In their study,

older children (aged 18 to 23 years) were found to experience more symptoms than younger children (aged 13 to 17 years). There were more older children (44%) meeting a PTSD diagnosis than the younger ones (33%) although the difference was not statistically significant. It should be noted that the older and younger children in this study were likely to be around 8 to 13 years old and 3 to 7 years old respectively when the trauma happened. Some researchers suggested that very young children may be shielded from the effects of trauma because they may not have the ability to understand the danger (Salmon & Bryant, 2002). For example, in this study, all of the older children compared to 75% of the younger children described believing that they would die during the genocide. Therefore, it is possible that the impact of trauma exposure depends on one's exposure and ability to understand the trauma which partially explains the variability found in older and younger children.

2.5.3 Sex

Like age, sex differences in trauma reactions are inconclusive, with some studies reporting no sex differences (e.g., Heptinstall et al., 2004; Montgomery, 2010) while some other studies describe females as more vulnerable to experiencing psychological issues following exposure to trauma (e.g., Dyregrov et al., 2002; Fernando et al., 2010; Kuterovac-Jagodic, 2003). In a study involving children aged 6 to 17 years, Dyregrov and colleagues (2002) reported that boys demonstrated significantly fewer avoidance symptoms and grief reactions compared to girls. However, both sexes were comparable on other symptoms. More prominent sex differences in symptom expression were illustrated in Schaal and Elbert's (2006) study. Schaal and Elbert assessed Rwandan adolescents 10 years after the genocide and found girls doubled the number of boys who met PTSD diagnosis (60% vs. 27%). The findings were in accordance with Smith and colleagues' (2002) findings in a Bosnian study where girls scored higher than boys on PTSD, depression, anxiety, and grief symptoms even though sexes did not differ on their level of exposure.

In other studies, prominent sex differences were compared in relation to internalising and externalising symptoms. In a sample of 11 to 18 year-old refugees resettling in Belgium, Derluyn et al. (2009) found girls to experience greater levels of distress than boys on depression, anxiety, and PTSD. However, no significant sex

differences on externalising problems were reported. This was consistent with Papageorgiou et al. (2000) who found girls to score significantly higher on parent-rated emotional problems compared to boys in a sample of 95 Bosnian refugee children (aged 8 to 13 years) living in Greece. However, Papageorgiou et al. also found that boys reported significantly greater levels of PTSD avoidance symptoms than girls and more boys than girls were identified by the teachers to be likely cases. One of the reasons for the differences may be attributed to the coping strategies employed by both sexes. Kuterovac-Jagodic (2003) found that while both sexes reported similar level of exposure, boys demonstrated more frequent and efficient use of distraction techniques and aggressive techniques, and less frequent use of emotional coping than girls.

2.5.4 Child Intrinsic Factors

Research shows that some individual intrinsic characteristics, such as intelligence, coping styles, and cognitive capacity, could affect a child's reaction to a traumatic experience and the development of PTSD. In a sample of young children (aged 4 to 8 years) resettled in Sweden, Almqvist and Broberg (1999) found pre-trauma vulnerabilities, including pre-existing vulnerabilities (physical illness, psychological problems, and delayed development) to correlate positively with PTSD symptoms, social adjustment, and global self-worth. In addition, the influence of these variables changed over time. At one year post-arrival, mental health outcomes were associated with exposure and sex. At 3.5 years post-arrival, the outcomes were associated with pre-existing vulnerabilities and traumatic exposure which seems to suggest that children with pre-trauma vulnerabilities may have more difficulty returning to their pre-trauma functioning.

Similar findings were replicated in a study involving older children. Kuterovac-Jagodic (2003) assessed 252 primary school age (mean age = 10 years old) Croatian children immediately and 30 months after war, and found different significant predictive factors at both periods. Exposure to war was the major predictor of short-term PTSD, but personality was the major factor accounting for long-term (30 months) PTSD. Short-term PTSD was mainly predicted by exposure factors and emotional coping strategies but long-term PTSD was mainly predicted by personality factors such as externality of locus of control, emotional coping

strategies, and aggressive coping. The finding signifies the increasing influence of one's coping strategies on the long-term psychological outcomes as one starts to process the experience or symptoms.

The effects of exposure, intelligence, cognitive capacity, neuroticism, and parenting style on children exposed to military trauma were investigated by Quota et al. (2007) using a longitudinal study consisting of 65 Palestinian children (aged 10 to 11 years at baseline). These characteristics were assessed at baseline and entered into hierarchical linear regressions to predict psychological distress. Results showed that cognitive capacity was a significant negative predictor whereas exposure to trauma and neuroticism were positive predictors of PTSD. In contrast, only exposure to trauma significantly predicted depression. These results suggest that PTSD and depression may be related to different risk factors.

2.5.5 Social and Environmental Factors

Culture and social system influences one's experience of trauma (Lustig, Kia-Keating, et al., 2004; K. E. Murray et al., 2008). Stresses such as cultural bereavement (Eisenbruch, 1991), arising from the disconnection with the attributes of one's origins, and acculturation stress, resulting from the challenges to integrate one's cultural identity and the culture of the new settlement, could have a negative impact on young refugees who resettle in a new country (Lustig, Kia-Keating, et al., 2004). On the other hand, cultural attributes such as ideological commitment and religious beliefs have been found to be protective from psychological distresses in some refugees (Servan-Schreiber, Lin, & Birmaher, 1998; Silove, 1999). However, in Porter and colleagues' (2012) meta-analysis, cultural access in post-settlement was not associated with mental health. In the study, cultural access was defined as freedom to practice one's culture. Perhaps, a wider context needs to be considered. For example, Silove et al. (1999) suggested that to understand one's response to trauma, one needs to consider five core systems of safety, justice, identity, attachment, and existential meaning.

Children are also embedded in an interrelated ecology of systems around them (Bronfenbrenner, 1986) and thus positive relationships and social support constitute important aspects of their lives (Dyregrov & Yule, 2006; Laor et al., 2001). However, community network and social structure may be destroyed by war.

In a study involving refugee children (aged 7 to 12 years), Paardekooper et al. (1999) found Sudanese refugee children experienced less satisfactory social support, particularly material and emotional support, and social interaction, compared to children not previously exposed to war. Unfortunately, it was unclear from the outcomes whether the poorer satisfaction is caused by refugee children needing more support and whether poor social support is related to poor psychological outcomes in the sample.

A clearer illustration of the relationship between social support and positive outcomes may be found in Moscardino, Scrmin, Capello, and Altoè's (2010) study. In a sample of 158 Russian children (aged 14 to 17 years) who survived a terrorist attack, the authors found depression symptoms to correlate negatively with social support, sense of community, and endorsement of communal values. Path analyses constructed through LISREL confirmed that stronger perceived family support predicted lower depression scores in girls, with family support associated positively with endorsement of communal values. The model for boys was more complex, with endorsement of communal values associated with a sense of community, which in turn negatively associated with depression symptoms. The authors hypothesised that the inverse relationship indicates that support from others can have a negative impact on one's adjustment if the support comes in the form of pressure or negative messages.

To further understand the value of perceived support, A. A. Thabet, Ibraheem, Shivram, Winter, and Vostanis (2009) compared children with a diagnosis of PTSD with children without a diagnosis in a sample of 412 (aged 12 to 16 years) Palestinian refugee children on their levels of perceived support from their parents. An inverse relationship between perceived parental support and PTSD symptom severity was reported. Furthermore, children with a diagnosis reported significantly lower perceived support scores than those without a diagnosis, suggesting that perceived support from family, specifically parents, may be a protective factor. The results are consistent with the findings of Montgomery (2010) in which refugee children who had positive communication with their parents were more likely to be asymptomatic compared to children who were distressed. Similarly, Laor et al. (2001) observed that improvements in children five years after war were influenced by the mental health of their mother and family cohesion.

In sum, many internal (e.g., age, sex, and personality) and external (e.g., trauma exposure, and cultural and social system) factors have been identified to contribute to the development of PTSD in war-affected children. The findings on the effects of these factors were complex and often inconsistent across studies. Therefore, in order to prevent an over-interpretation of the results from isolated studies, two meta-analyses which examined the risk factors for PTSD in children and refugees were reviewed. Furthermore, it may also be reasonable to say that different factors become more salient as children go through the different phases of their refugee experience, be it at immediate war setting (pre-flight), during flight or displacement, or at settlement (post-flight). This is because these phases involve different kinds of stresses (Lustig, Kia-Keating, et al., 2004). While it may not seem viable to assess all of the potential risk and protective factors reported in the literature, it may be reasonable to conclude that an individual's adaptation to a traumatic event is a complex process that involves multiple interacting factors within the individual and external to the individual (Masten & Narayan, 2012). The next section will involve a discussion of the assessment of PTSD symptoms in children.

2.6 Assessment

Different methods can be used to measure trauma exposure and associated symptoms, depending on the purpose of the assessment. Semistructured clinical interviews are generally used to complete a diagnosis, whereas self-report checklists are useful for screening and treatment evaluation purposes. Common clinician-administered diagnostic tools used to diagnose PTSD in children include the Clinician Administered PTSD Scale for Children (Nader & Fairbanks, 1994), Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (J. Kaufman et al., 1997), the Diagnostic Instrument for Children and Adolescents (Herjanic & Reich, 1982); and the Anxiety and Depression Interview Schedule for Children (Silverman & Albano, 1996) The advantage of semistructured clinical interviews is that assigning children into categorical groups of clinical diagnoses allows for simpler and easier comparison across studies and nations. However, some practitioners have expressed reservations about the usage of semistructured clinical interviews with children. This is because

the administration of these interviews requires trained clinicians and that some of the current diagnostic criteria are not developmentally sensitive (Perrin et al., 2000).

In contrast, self-report questionnaires are frequently used in practice and research because of the brevity of the measures and ease of implementation (Perrin et al., 2000). The advantage of self-report measures over semistructured clinical interviews is that self-report measures can be used to screen a large number of children in the shortest time possible for immediate intervention (Brewin et al., 2002; Yule & Udwin, 1991). In addition, given that self-report measures involve continuous data, they are useful for the evaluation of intervention progress (Ehnholt & Yule, 2006). Furthermore, self-report measures are easily translated and back translated for use with children from different cultural backgrounds. An extensive number of child-report PTSD measures have been published in the literature and a number of reviews have been written (e.g., Nader, 2004).

Numerous semistructured clinical interviews and self-report measures for PTSD have been published in the literature. However, it remains the responsibility of researchers and practitioners to select appropriate assessment tools by considering their purpose, psychometric properties, and limitations. Practitioners working with war-affected children also face the challenge of selecting tools that are culturally sensitive. Problems arise when the majority of the symptom measures were developed from a Western mental health framework and most of them do not have cutoff scores for children from other cultures. A description of the array of diagnostic interviews and questionnaires for children (J. A. Cohen et al., 2010; Perrin et al., 2000) and war-affected children (Barenbaum et al., 2004; Ehnholt & Yule, 2006) have been adequately discussed in earlier studies. Given that the focus of the current research is in investigating the efficacy of an intervention, the focus of this section will be on the assessment of PTSD symptoms using self-report questionnaires that produce continuous data.

2.6.1 Harvard Trauma Questionnaire

The Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992) was developed using clinical data from patients attending an Indochinese psychiatric clinic in Boston. It assesses both exposure experience and PTSD symptoms. Apart from the 16 items that assess PTSD symptoms specified in the *DSM-III-R*, the

symptom section also contains 14 items that assess symptoms related to refugee trauma. The advantages of the HTQ include (a) it measures both exposure and symptoms, (b) it contains items to measure cultural-specific refugee experiences, (c) it is available in multiple languages, and (d) it has been heavily evaluated among refugees from Asian regions.

In a sample of 91 adult refugees, the Cronbach's alphas for the exposure and symptom checklists were .90 and .96, respectively (Mollica et al., 1992). The one-week test-retest reliability was .89 for the exposure checklist and .92 for the symptom checklist. The symptom checklist correlated significantly ($r = .53$) with the trauma event checklist and a cutoff of 75 was found to maximise classification accuracy with an overall efficiency of 75%. A limitation of the HTQ is that although it has been employed with adolescent refugees in several studies (Geltman et al., 2005; Jones & Kafetsios, 2002), it is not widely used with refugee children and the psychometric properties for children are limited (Ward, Flisher, Zissis, Muller, & Lombard, 2004).

2.6.2 UCLA PTSD Reaction Index for DSM-IV

The UCLA PTSD Index for DSM-IV (UCLA PTSD Index; Rodriguez, Steinberg, & Pynoos, 1999) is another PTSD measure that is commonly used with school-aged children and adolescents. It is a revision of the Child Posttraumatic Stress Reaction Index (Pynoos et al., 1987), a measure identified as the most frequently used PTSD measure for children in Hawkins and Radcliffe's (2006) review. Like the earlier version, the UCLA PTSD Index was designed for children and adolescents aged 7 to 18 years (Steinberg, Brymer, Decker, & Pynoos, 2004). The advantages of the UCLA PTSD Index include (a) it measures both exposure experience and all of the 17 *DSM-IV* PTSD symptoms, (b) it has a separate parent, child, and adolescent version, (c) it is easy and brief to administer, and (d) it is available from the authors.

The Cronbach's alpha values of this measure reported in various studies have been found to be in the range of .90 (Ellis, Lhewa, Charney, & Cabral, 2006; Layne et al., 2001; Rodriguez, Steinberg, Saltzman, & Pynoos, 2001, December 6-9). In terms of convergent validity, it correlated .70 and .82 with the PTSD module of the Schedule for Affective Disorders and Schizophrenia for School-aged Children and

the Clinician-administered PTSD Scale for Children and Adolescents respectively (Rodriguez et al., 2001, December 6-9). It was also found to correlate significantly and positively with self-report measures of PTSD-related symptoms such as the Birleson Depression Self-rating Scale, $r = .72$ (Ellis et al., 2006).

The main limitation of the measure is its inability to generate a diagnosis. However, it was not designed for this purpose and a cutoff score of 38 or greater for a single traumatic event has been suggested for a probable diagnosis. Furthermore, it focuses on a single traumatic event which may not be appropriate for children exposed to multiple traumas. Therefore, the most prominent event has been suggested to be used as the reference point when assessing children exposed to multiple traumas (Steinberg et al., 2004). It has been used to measure PTSD symptoms in children who survived various types of trauma, such as natural disaster (Jensen, Dyb, & Nygaard, 2009) and war (Berger, Pat-Horenczyk, & Gelkopf, 2007; Elbert et al., 2009; Ellis et al., 2006; Gelkopf & Berger, 2009).

2.6.3 Reactions of Adolescents to Traumatic Stress

The Reactions of Adolescents to Traumatic Stress (RATS; Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, 2006) comprises 22 items measuring the 17 symptoms of PTSD defined by the *DSM-IV*. The items are rated on a 4-point scale, and the items can be summed to produce a total severity score. The advantages of the RATS include (a) it was based on the *DSM-IV*, (b) it was developed for adolescent refugees from diverse backgrounds, (c) the response format was designed to cater to the needs of people unfamiliar with questionnaires, and (d) it is available in multiple languages.

Satisfactory psychometric properties were reported by Bean et al. (2006). For internal consistency, an alpha coefficient ranging from .81 to .93 was reported for the different translations examined. The 12-month test-retest reliability was .61. In addition, the convergent validity of the measure was demonstrated through its significant and positive correlations with the internalising (correlations ranged from .66 to .79) and externalising (correlations ranged from .23 to .33) subscales of the Hopkins Symptom Checklist-37A, and the Stressful Life Events measures (correlations ranged from .45 to .52). Results from the factor analysis also supported a three-factor model of PTSD. The specificity and sensitivity of the measure were

not examined due to the absence of structured clinical interviews. Given that it was developed for adolescents, its appropriateness for younger children is unclear.

2.6.4 Impact of Event Scale

The Impact of Event Scale (IES; Horowitz et al., 1979) comprises 15 items that measure intrusion and avoidance, and the items are rated on a 4-point scale. It was developed prior to the formal recognition of PTSD in the *DSM-III* and hence the items do not correspond to the current PTSD symptom clusters. Despite this limitation, the IES is widely used in adults and children (Sundin & Horowitz, 2003). However, several items were found to be easily misunderstood by children and were subsequently removed; and in order to be consistent with the three-cluster *DSM-IV* PTSD diagnosis, an additional 5 items about arousal symptoms were added to form the Children's Revised Impact of Event Scale (CRIES-13; Smith, Perrin, Dyregrov, & Yule, 2003). The advantages of the CRIES-13 include (a) it is developed for children, (b) it is available from the authors, (c) it is easy to administer and score, and (d) it is available in multiple languages. In addition, the items can be easily summed to produce a total score to represent the severity of the symptoms which would be useful to monitor treatment outcomes.

The internal consistency of the CRIES-13 has been found to be highly satisfactory. Smith and colleagues' (2003) and Giannopoulou, Smith, et al. (2006) reported a Cronbach's alpha of .80 and .87 respectively. In terms of convergent validity, the CRIES-13 correlated strongly and significantly with the PTSD Checklist, $r = .84$ (Creamer, Bell, & Failla, 2003) and the UCLA PTSD Index, $r = .79$ (Giannopoulou, Smith, et al., 2006). A cutoff score of 30 has been found to correctly classify 82.7% of cases in a clinical sample and 75% of cases in a non-clinical sample (Perrin, Meiser-Stedman, & Smith, 2005). A three-factor structure was supported (Giannopoulou, Smith, et al., 2006; Smith et al., 2003) even though the existence of a third factor (arousal) was not entirely clear in Smith and colleagues' study. Like the IES, the CRIES-13 has been used to assess PTSD symptoms across different traumatic events, including earthquake (Giannopoulou, Strouthos, et al., 2006), disaster (Godeau et al., 2005), and war (Ehnholt et al., 2005; Papageorgiou et al., 2000; Smith et al., 2002; Smith, Perrin, Yule, & Rabe-Hesketh, 2001).

In sum, various self-report measures have been employed to assess the symptoms of PTSD in war-affected children. Although some of them were not originally developed for children, evidence of the application of such measures with children has been published in some studies. However, a common limitation of some of these measures is that they were designed to measure reactions to a single trauma despite children exposed to war often being affected by multiple traumatic events. Therefore, practitioners should be aware of this limitation when assessing children exposed to multiple traumas. Furthermore, given that these measures have different purposes, strengths, and psychometric properties, these factors should be taken into consideration when selecting an assessment tool.

In addition, a comprehensive assessment of child PTSD should ideally involve the collection of information from multiple informants, such as the child and the parents (J. A. Cohen & Mannarino, 1996; Nader, 2004). Other assessment considerations include the accuracy of information given by young children (J. A. Cohen & Mannarino, 1996), inconsistency between parent- and child-reports (Goodman et al., 2000), and biases of informants (Lau et al., 2004). These challenges have been reported in refugee studies (Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Goldin, Hägglöf, Levin, & Persson, 2008) and should be considered when selecting assessment tools and informants.

2.7 Chapter Summary

This chapter involved a review of the psychological outcomes of children exposed to war-related trauma. The review focused on the definition, prevalence, course, comorbidity, functional impairment, and risk and protective factors that mediate and moderate the impact of exposure on children's emotional well-being. Given that PTSD (like other disorders) was developed by Western medical and mental health frameworks, its applicability to war-affected population from non-Western cultures was explored. While some researchers warned against the application of PTSD in people from non-Western cultures (Kluznik, Speed, Van Walkenburg, & Magraw, 1986; Summerfield, 1999), some reported that PTSD is observed cross-culturally even though the prevalence rates may vary and culturally specific symptoms exist (Hinton & Lewis-Fernández, 2011).

In addition, the relevance of the current *DSM-IV-TR* PTSD diagnostic criteria for children and adolescents has received much attention and criticism from researchers and practitioners who suggested that it is not developmentally sensitive, especially for young children (Punamäki, 2002; Scheeringa, Zeanah, & Cohen, 2011). With the development of the *DSM-5* taking its place, several modifications to the current criteria for PTSD in children have been proposed (Scheeringa et al., 2011). However, for the sake of the ease of comparison with existing studies in the literature, PTSD as per the *DSM-IV-TR* will be used in this research to discuss the presence of posttraumatic reactions in war-affected children.

Overall, the rates and severity of PTSD in war-affected children vary greatly considering the heterogeneity of the studies. Therefore, a clear cut conclusion about the rates of psychological symptoms and functional impairment in war-affected children is difficult to make. In terms of the course of PTSD and comorbid disorders, many children have short-term reactions after exposure (A. A. Thabet & Vostanis, 2000) but some continue to develop and experience psychological symptoms years after the exposure (Schaal & Elbert, 2006).

A brief review of the literature suggests that the way an individual responds to a traumatic exposure depends on a plethora of risk and protective factors. Although exposure to trauma strongly increases one's risk of developing PTSD, the development of PTSD in war-affected children should be considered in the context of various risk and protective factors. Psychological reactions could not be understood simply as a product of a single discreet event but rather a dynamic interaction between inter-related internal and external risk and protective factors at both individual and societal levels (Lustig, Kia-Keating, et al., 2004; K. E. Murray et al., 2008; Reed, Fazel, Jones, Panter-Brick, & Stein, 2012). Therefore, these factors should be taken into consideration while assessing and treating war-affected children.

Considering that only some children develop PTSD following exposure to trauma, it is important that appropriate measures are used to correctly and quickly identify at-risk children. Semistructured clinical interviews are generally perceived as ideal but less feasible in the context of emergency or disaster where a large number of victims need to be assessed. Self-report measures which are brief and easy to administer are generally preferred in these situations. Furthermore, continuous

data generated from self-report measures can be easily used to track and evaluate intervention outcomes (Ehnholt & Yule, 2006). The next chapter will involve a discussion of the types of empirical-based interventions for childhood PTSD, and the issues and applicability of these interventions for war-affected children.

Chapter 3: Interventions for War-affected Children with PTSD

Introduction

The Convention on the Rights of the Child (United Nations General Assembly, 1989) postulates that all children have the right to care and safety, but it is clear from the literature reviewed in the previous chapter that the experience war-affected children go through significantly contravenes their rights. Furthermore, Article 39 of the Convention further posited that the recovery of a child who has been subjected to any forms of neglect, exploitation, war or torture should involve a consideration of the physical, psychological, and social aspects. A review of the literature presented in this chapter shows that a considerable number of psychological or psychosocial interventions have been suggested for war-affected children (see Barenbaum et al., 2004; Jordans, Tol, Komproe, & de Jong, 2009) but researchers remain contentious about the best interventions for these children. Therefore, this chapter will provide an overview of the various interventions conducted with war-affected children. Research on the efficacy of CBT for war-affected children with PTSD will then be discussed with a particular focus on group-based CBT. The chapter will conclude with a discussion on special considerations when working with these children.

3.1 Types of Intervention

In light of the different phases of refugee experience, it is likely that different types of interventions are needed at different phases of the experience (Lustig, Kia-Keating, et al., 2004). For example, safety and basic needs are more likely to be a priority than psychological intervention when children are fleeing their country. According to Maslow's (1943) hierarchy of needs, people who are fighting to survive will be more concerned about food and safety than emotional satisfaction. Hence, researchers have suggested that counselling may be more appropriate when material needs are met and safety is no longer a concern. A review of the literature suggests a wide range of interventions are employed to improve the mental health outcomes of war-affected children prior to exposure (e.g., Wolmer, Hamiel, & Laor,

2011), during war and displacement (e.g., Neuner, Schauer, Elbert, & Roth, 2002), and postwar (e.g., Ehntholt et al., 2005).

Universal interventions have been employed to encourage resilience of children living under the threat of war. Using a quasi-randomised controlled trial, Gelkopf and Berger (2009) examined the effects of a universal intervention, the ERASE-Stress programme, with a sample of 114 Israeli children (aged 12 to 15 years). The 12-session programme included psychoeducation, identifying personal strengths, and skills to manage negative experiences. Children were recruited from a school and were randomised by their class into the intervention or waiting list control condition. Results showed that children in the intervention condition improved significantly (Cohen's *d* ranged from small to medium) on PTSD, functional problems, somatisation, and depression from pretest (a week before the intervention) to posttest (3 months after the intervention) compared to those in the control condition. Almost 80% of students in the intervention condition made reliable improvement on PTSD scores, compared to only 12% of those in control condition. However, due to the absence of an active comparison group, it was unknown whether the observed effects were intervention-specific. Furthermore, clustering effects were not accounted for in the analysis. The findings nevertheless show the positive impact of universal intervention in improving the mental health outcomes of children living in war setting.

A larger preventative study was conducted by Wolmer et al. (2011). Wolmer et al. reported the results from their study that involved an evaluation of a 14-session resilience and skill-based prevention programme designed for children who are at risk of exposure to war. Children in the intervention condition ($n = 748$) received the preventative programme whereas children in the waiting list control condition ($n = 740$) received standard care. The intervention was administered 9 months before the city was exposed to rocket attacks and children were assessed 3 months after the intervention. At posttest, a small effect size for PTSD and stress scores was observed, with children in the intervention condition reported significantly lower PTSD and stress scores compared to children in the control condition. Prepost comparison was not conducted because pretest was not conducted. No feedback was obtained from the significant others. Nevertheless, this is a unique study because the

majority of the studies published in this area were conducted after children have been exposed to war.

In contrast to the few intervention studies conducted with children prior to their exposure, the majority of the studies were undertaken after war had occurred. These interventions include acute interventions, psychosocial interventions, and trauma-focused interventions. Psychological debriefing is a well-known acute intervention initially used to provide immediate crisis intervention and prevent the development of psychological disorders in emergency workers such as fire fighters (Friedman, 2012). The practice of psychological debriefing generally involves sharing facts about the traumatic event, encouraging survivors to speak about their thoughts and reactions, and normalising of the reactions by the facilitator.

An evaluation of psychological debriefing for refugee children was reported by A. A. Thabet, Vostanis, and Karim (2005). The study comprised a sample of 111 refugee children (aged 9 to 15 years) living in Gaza of which 47 children received a 7-session crisis intervention, 22 received a 4-session psychoeducation, and 42 did not receive any intervention. The group crisis intervention was facilitated by three clinicians and children were encouraged to express their experience of loss and trauma in the sessions. The sessions were not guided by any structured themes. Results showed no significant differences on PTSD and depression scores among the children in the three conditions from pretest to posttest, indicating that the crisis intervention was not superior to the psychoeducation or waiting list. Small intervention effects were observed. In parallel, Karam et al. (2008) implemented a 12-session early intervention (one month after war has ceased) comprising CBT and anxiety management techniques for children living in South Lebanon. There were no significant intervention effects on PTSD, depression or anxiety symptoms.

Some researchers have suggested that psychological debriefing may not be a helpful practice (van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002). Van Emmerik and colleagues' meta-analysis observed that psychological debriefing resulted in a small reduction (mean weighted effect size = 0.13) in PTSD symptoms; whereas non-psychological debriefing interventions (mean weighted effect size = 0.65) and no intervention (mean weighted effect size = 0.47) resulted in a medium reduction in PTSD symptoms. The 95% confidence intervals of the effect sizes

across the conditions also overlapped, indicating that psychological debriefing was no more superior to the other conditions.

Psychological first aid is an alternative to psychological debriefing (Brymer et al., 2008). It has been recommended for the management of emergency crisis situations by the World Health Organization (2011), the National Center for Posttraumatic Stress Disorder (Brymer et al., 2008), and the Australian Centre for Posttraumatic Mental Health (2007). The primary difference between psychological first aid and psychological debriefing is that psychological first aid does not require survivors to describe the traumatic experience but functions as a framework for crisis workers to provide practical help and support to trauma survivors. Brymer et al. (2008) provided a detail explanation on the applicability of psychological first aid for war-affected children but indicated that more research is needed to establish the efficacy of psychological first aid for children. It seems that while there is a growing interest and acceptance of adopting psychological first aid as an early intervention for people exposed to trauma, there is yet to be systematic evaluation of its benefits (Au, Silva, Delaney, & Litz, 2012).

Apart from the inconsistent reports about the efficacy of early interventions, researchers remain contentious about the most appropriate intervention frameworks for war-exposed children (Betancourt & Williams, 2008). A great division exists between researchers who advocate for psychiatric intervention and researchers who advocate for psychosocial intervention. Betancourt and Williams described psychiatric interventions as those that target individuals with mental disorders and aim at reducing their symptoms. In contrast, psychosocial interventions focus on the entire affected population and aim at restoring pre-conflict economy, health, and social structures. Advocates for psychosocial interventions believe that daily stressors affect mental health and contend that improving living conditions, social networks, and material needs will improve mental health. Advocates for trauma-focused interventions, on the other hand, focus on the enduring impact of war exposure and believe that amelioration of symptoms will improve mental health. Other researchers have used the term trauma-focused rather than psychiatric to refer to the same type of intervention (Miller & Rasmussen, 2010a).

Some researchers like Jordans et al. (2009) categorised interventions into interventions that target general well-being, interventions that target psychosocial

distress, and interventions that target psychopathology. Yet other researchers use the term *curative* interventions to refer to interventions that focus on psychological symptoms and *developmental* interventions to refer to interventions that prevent deterioration (Kalksma-Van Lith, 2007). Most of these are essentially referring to the same concepts. For the sake of clarity of presentation in this thesis, these interventions will be categorised in terms of the focus of the intervention. *Non-specific* interventions refer to interventions that do not focus on traumatic experience; whereas *specific* interventions include interventions that involve a discussion on traumatic experience. A discussion of evidence for these interventions follows.

3.2 Non-specific Interventions

A range of non-specific interventions which may not necessarily focus on addressing and discussing specific traumatic experiences have been used to reduce psychological symptoms in war-affected children. Given that it is beyond the scope of this thesis to provide an exhaustive list of non-specific interventions used with war-affected children, this section will provide a review of some of these interventions, including anxiety management training, creative arts therapies, family-centred therapy, school-based psychosocial interventions, and traditional practices.

3.2.1 Anxiety Management Training

Anxiety management training involves teaching anxiety-reduction skills and increasing a sense of mastery (K. E. Murray et al., 2008). Common techniques include slow breathing, cognitive restructuring, psychoeducation, and communication skills (Barlow, 2002). Anxiety management training can be used as a stand-alone intervention or together with other interventions. It is also a common component of CBT treatment for PTSD because it empowers patients to manage arousal caused by both PTSD symptoms and exposure exercises (J. A. Cohen, Mannarino, et al., 2000).

March, Amaya-Jackson, Murray, and Schulte (1998) described intentionally running anxiety training before exposure therapy in their group CBT intervention so that the patients have the necessary coping skills to manage anxiety when exposure therapy was conducted. Like other CBT interventions, the 18-week treatment

programme included anger management, positive self-talk, exposure, and relapse prevention. The efficacy of this intervention was tested with 17 children (aged 10 to 15 years) diagnosed with PTSD following a single-incident trauma. Results showed that 60% and 90% of the children no longer met the diagnosis at immediate posttest and 6-month follow-up respectively. Significant improvements (Cohen's d ranged from small to large) in symptoms of PTSD, depression, anxiety, and functional impairments were reported. Although the unique effect of anxiety management training was not examined, no children experienced significant distress during the treatment, which could possibly be attributed to the training.

The unique effects of anxiety management training were examined in a small study. Snodgrass et al. (1993) tested the effectiveness of an adapted Stress Inoculation Training (Veronen & Kilpatrick, 1983), originally developed for rape victims. This was conducted with eight Vietnamese refugees (mean age = 19.3 years) living in the United States and experiencing moderate levels of PTSD severity. The intervention consisted of deep breathing and thought stopping exercises delivered over six 3-hour sessions. Participants were compared with friends or relatives that served as a control condition. Participants in both conditions began with similar PTSD scores but at posttest, the mean PTSD score of the participants in the intervention condition was significantly lower than that of the control condition. Participants in the intervention condition also reported a significant prepost symptom reduction compared to participants in the control condition. However, the findings are limited by small sample size and the absence of randomisation.

Gordon, Staples, Blyta, Bytyqi, and Wilson (2008) conducted an RCT to examine the impact of a group-based stress management intervention in Kosovo five years after war. A total of 82 war-affected children (aged 14 to 18 years) meeting the diagnostic criteria of PTSD were randomly allocated into the intervention or the waiting list control condition. The intervention comprised meditation, breathing, guided imagery, and biofeedback, and was conducted by school teachers. It occurred over six weeks and each session lasted for two hours. Assessments were conducted at pretest, posttest, and 3-month follow-up by teachers. A large intervention effect (partial $\eta^2 = 0.28$) was reported on PTSD scores at posttest and the improvement was maintained at the follow-up. No other outcomes were reported.

In a study with an active comparison group, Taylor, Thordarsn, Maxfield, and Fedoroff (2003) examined the efficacy of anxiety management training in reducing PTSD symptoms in an adult sample. The sample consisted of 60 adults who met the diagnostic criteria of PTSD following exposure to a diverse range of trauma. Participants were randomly allocated into eight 60-minute sessions of Eye Movement Desensitization and Reprocessing (EMDR), exposure therapy or anxiety management training. EMDR involved asking participants to recall a traumatic memory while tracing therapist's finger until associated distress has subsided; exposure therapy consisted of imaginal and in-vivo exposure to trauma-related stimuli; and anxiety management training involved therapist-guided relaxation training. Treatment adherence was high. Like exposure therapy and EMDR, relaxation training led to a significant reduction of PTSD symptoms from pretest to 3-month follow-up. While exposure therapy ($\eta^2 > 0.59$) showed a stronger effect on symptom reduction from pretest to follow-up compared to EMDR ($\eta^2 > 0.49$) and relaxation ($\eta^2 > 0.47$), relaxation and EMDR had comparable results on treatment efficacy and speed of symptom reduction. In addition, the number of participants who reported worsening of symptoms did not differ among the interventions. The results illustrated the efficacy of anxiety management training in reducing PTSD symptoms.

In sum, the positive impacts of anxiety management training on adults and children suffering from PTSD symptoms have been demonstrated in the literature, especially when it is used in combination with other therapies (J. A. Cohen, Mannarino, et al., 2000). Therefore, it seems that based on the current literature, anxiety management training is a worthwhile component to be used in combination with other techniques for greater and faster improvement.

3.2.2 Creative Arts Therapies

Creative arts therapies include, but are not limited to, music therapy, drama therapy, art therapy, and poetry therapy (Goodman, Chapman, & Gantt, 2008). Like anxiety management training, creative arts therapies have been used for different types of psychiatric disorders by itself or as a component of other therapies. The utilisation of expressive techniques such as drawing in creative arts therapies is an advantage over verbal therapies because language could become a barrier to

participation for patients have difficulties verbalising their feelings or problems (K. E. Murray et al., 2008). For example, Bergmann (2002) described the relevance of music therapy, especially in relation to psychoanalytic approach, in helping war-exposed Bosnian children. Bergmann provided vignettes of the positive impacts of music therapy on children's re-establishment of relationship with self and others, sense of control, capacity to symbolise, and boundaries. However, very little information was provided about the intervention and no measurable outcomes were reported.

In a study which utilised measureable outcomes, Rousseau et al. (2007) examined the benefits of a drama therapy for 136 refugees (aged 12 to 18 years) recently settled in Canada (75% living in Canada for less than 12 months). There were no specific inclusion criteria. Students were randomised by class into the intervention ($n = 66$) and control conditions ($n = 57$). Children in the intervention condition received 75 minutes of drama therapy for nine weeks to discuss their migration experience using images and metaphors. Results showed no significant differences between the intervention and control conditions in prepost changes on the student- and teacher-rated psychosocial functioning and self-esteem scores. However, students in the intervention condition reported significant improvements in school performance and described themselves to be less affected by their symptoms compared to students in the control condition. These findings are consistent with the results of A. A. Thabet, Tawahina, El Sarraj, and Vostanis's (2009) study in which children and parents reported significant improvements (with small to large effect sizes) in anxiety, depression, and other indicators after receiving a group psychodrama programme. It is noted, however, that A. A. Thabet and colleagues' program focused on re-enacting traumatic experiences through drama which may be more appropriately classified as a specific intervention.

Creative arts therapies have also been trialled with refugee children in Australia. In order to test the impact of music therapy previously shown to be effective with traumatised young refugees (Bergmann, 2002; Lang & McInerney, 2002), Baker and Jones (2006) recruited 31 newly arrived refugees from a high school in Queensland. A crossover design was employed in which students received two 5-week blocks of music therapy and two 5-week blocks of no intervention. Students were randomised according to their class (matched on age group and

academic level) into two groups. The therapy focused on self-identity, musical cultures, social skills, impulse control, acculturation, anti-racism, and feelings of failure in classroom. The sessions were delivered in the classroom and took place twice a week, lasting 30 to 40 minutes each. Students were assessed by the teachers prior to the intervention and after each block. A medium intervention effect was found on the teacher-rated externalising behaviours but not on internalising behaviours, adaptive skills or school problems. Given that student and parent reports were not employed, it was unclear whether these changes were noted by them. Furthermore, longer follow-ups may be advantageous in observing long-term changes of the students' adaptive behaviour.

Creative play is another intervention thought to be beneficial to war-affected children. It is built on the assumption that resilience can be strengthened through age-appropriate activities such as songs, music, sports, games, and art. P. Bolton et al. (2007) recruited 314 refugee adolescents (aged 14 to 17 years) with clinical levels of depression and randomly allocated the adolescents into the creative play, interpersonal psychotherapy, or waiting list control condition. A maximum of 16 weekly group sessions was designed for each intervention and each session lasted between 1.5 and 2 hours. Treatment adherence was mentioned but no details about actual adherence were reported. A large intervention effect was observed for the interpersonal psychotherapy condition compared to the control condition. The small intervention effect observed for the creative play condition was not statistically significant. Neither creative play nor interpersonal psychotherapy had a significant intervention effect on conduct problems or functioning. Although the results appeared to suggest the superiority of interpersonal psychotherapy over creative play, the design of the study rendered the results inconclusive. This is because cluster effects were not taken into account in the analyses and the creative play groups were larger and of mixed gender compared to the interpersonal psychotherapy groups which were smaller and gender-specific. Nevertheless, the study should not be disregarded because it is one of the few RCTs of psychological interventions for war-affected children conducted in an immediate post-war situation. Furthermore, the outcome measures are believed to be sensitive to the experience of the children given that they were developed in collaboration with the local community.

In summary, some researchers have investigated the efficacy of creative arts therapies in improving the emotional and behavioural outcomes of war-affected children. However, based on the current literature, there is yet to be sufficient empirical evidence to suggest that creative arts therapies are effective for PTSD and related symptoms in war-affected children.

3.2.3 Family-centred Therapy

In light of the proximal relationship between parents and children, there is an increasing awareness among practitioners and researchers of the importance of involving parents or family members when helping war-affected children (Coulter, 2011). Dybdahl (2001) presented a successful implementation of a parent education programme aimed at improving the mental health of 5- to 6-year old children exposed to war trauma. The sample consisted of 87 displaced Bosnian mother-child dyads randomly allocated into the intervention (psychosocial intervention and standard care) or standard care (i.e., medical care). The programme was designed to improve children's well-being through healthy mother-child relationships. It comprised five months of weekly group meetings for mothers to discuss problem solving and positive parent-child interaction. Pretest was conducted prior to the intervention and posttest was conducted five to six months later but the exact timing was not reported. Small to medium intervention effects were observed on mothers' PTSD symptoms and children's weight. However, both groups did not differ significantly on other changes, including the child-rated depression scores and mother-rated child problems which may be reasonable considering that children did not receive any direct intervention. Notwithstanding, the findings suggest the feasibility of supporting young traumatised children through their parents.

Weine et al. (2003) described a programme aimed at empowering refugee families to cope with stress and at improving their ability to seek appropriate help for possible mental health issues. The 6-session multifamily group programme was specifically designed for Kosovo refugee families resettled in Chicago. Questionnaires about perceived social support, service uptake, knowledge and attitude towards mental health, and family functioning were administered at pretest and 3-month follow-up. A total of 86 adults (73 attended at least one group; 13 did not engage in the groups) participated in the evaluation. Results showed that

participants who attended at least one group reported significant improvements on perceived social support, psychiatric service utilisation, knowledge and attitudes regarding trauma mental health, and family hardiness. In contrast, those who did not engage in the groups only demonstrated significant improvement in self-esteem. PTSD symptoms were not measured but the authors articulated that a reduction in PTSD is probable considering the improvements in general well-being. It would also be interesting to examine the effects of the intervention in children given that many of the households had children.

Mohlen, Parzer, Resch, and Brunner (2005) described a multimodal program that utilised both specific and non-specific interventions. The 12-week programme included six group sessions, one family session, one parent session, and two to four individual sessions. The content comprised psychoeducation about PTSD symptoms, relaxation, discussion about adjustment issues and some trauma- or grief-focused therapy sessions. It was tested with a small sample of 10 refugee children (aged 10 to 16 years) resettled in Germany. Prepost comparisons showed a significant improvement in psychosocial functioning and reduction in PTSD, depression, and anxiety symptoms. Furthermore, 3 out of the 6 children who met the diagnostic criteria of PTSD diagnosis at pretest no longer met the criteria at posttest. Although the results of this pilot study sound promising, interpretation of the results should be exercised with caution because of the absence of a control condition and long-term follow-up. In addition, the unique contribution of the parental component was not assessed, probably due to the small sample size.

There are also a number of reflective or policy studies about utilising family therapy with people affected by war. Reflecting from their experience of running a refugee clinic in Norway, Sveaass and Reichelt (2001) discussed that refugee families have different needs and may be referred to therapy for various reasons. They presented a few scenarios to illustrate the different therapeutic moves used to engage clients but emphasised that therapists must be willing to see that therapy is not sufficient to meet all of the needs of the client. Similarly, Codrington, Iqbal, and Segal (2011) reflected on the unsuccessful efforts to provide family therapy to refugee families in Australia and identified complications at referral process, problem definition, client engagement, and client-therapist relationship. Codrington et al. suggested that including a third person, someone who has an existing working

relationship with the client, may facilitate engagement and change. This suggestion is also consistent with Voulgaridou, Papadopoulos, and Tomaras (2006) who discussed using cultural therapeutic mediators when working with refugee families. Unfortunately, to my understanding there are no published RCTs that have evaluated the efficacy of systemic family therapy for refugee children with PTSD.

Considering the positive impact of social support and healthy family relationships in children exposed to trauma, it seems desirable to involve parents when treating traumatised children (Salmon & Bryant, 2002). However, the empirical evidence of family therapy or the additional benefits of parent component in child therapy for traumatised war-affected children remained unclear (Mohlen et al., 2005; Weine et al., 2003).

3.2.4 School-based Psychosocial Interventions

Using standardised self-report measures, Peltonen, Quota, El Sarraj, and Punamäki (2012) examined the effects of a school mediation program in reducing psychological symptoms (including PTSD) and improving psychosocial functioning in war-affected children. The program was designed to improve peer relationship, problem solving, and co-operations, and children were encouraged to be active problem solvers in achieving these goals. The sample comprised 225 Palestinian children (aged 10 to 14 years) living in an area with ongoing violence. Pretest and posttest were conducted to assess symptoms of PTSD and depression, general distress, friendship quality, and prosocial behaviour. Although children in the intervention condition reported better outcomes (with small intervention effects) on friendship quality and prosocial behaviour at posttest, no other effects were observed.

Some researchers, like Betancourt (2005), have also suggested that the provision of education activities amidst the chaos of emergency and displacement can have positive impacts on children. Betancourt described the implementation of such a programme for children and their families living in temporary quarters in Ingushetia, Russia. The programme consisted of structured activities taught by teachers to address the psychosocial and learning needs of the children. Results from semi-structured interviews with 55 adolescents (aged 11 to 18 years) suggested that the intervention had enriched the social life of the children and provided them with

an opportunity to learn despite their chaotic living condition. The mental health of the children was not examined. However, Betancourt suggested that enriched social support and restoration of hope for the future is as important as reduction of traditionally defined mental health indicators. The findings from these studies suggest that while these interventions that aimed at improving children's confidence and educational needs may have positive impacts on their general well-being, there did not appear to be any strong evidence to support the efficacy of these interventions in reducing PTSD symptoms.

3.2.5 Traditional Practices

A small number of researchers have published results of interventions that combine psychological treatment with traditional practices. Traditional healing rituals, symbols, stories, dances, and song have been incorporated into psychological interventions for displaced adults and children in West Africa (Stepakoff et al., 2006); displaced children in Sierra Leone (Gupta & Zimmer, 2008); and refugee families in London (Woodcock, 1997). Illustrating from four clinical case studies, Woodcock showed that death rites, festive rituals, genogram, and the passing of time can be used to help clients to mourn over their lost ones, to move on from their past, and to reconnect with the present.

In a prepost design study conducted nine to twelve months after a rebel invasion, Gupta and Zimmer (2008) found a significant reduction in PTSD symptoms (Cohen's $d = 2.25$) in 315 Sierra Leone displaced children (aged 8 to 18 years) after eight 60-minute sessions of structured trauma healing activities. Subjective feedback from children showed that almost 80% of the children reported feeling better. Almost 100% of the children said their nightmares had diminished and concentration at school had improved. These findings suggest that including traditional practices and rituals into therapy when working with refugees may be helpful. However, more empirical evidence is warranted.

In summary, the benefits of various non-specific interventions for war-affected children have been investigated by many researchers using a diverse range of populations, settings, and methodologies. Although a direct discussion of traumatic experiences is often not a core component of these interventions, these interventions have generally focused on rebuilding relationships, improving coping

strategies, and reducing daily stressors which have been found to be protective against psychological problems. However, due to the broad and generic focus of some of these interventions, measuring the outcomes may be challenging. Kalsma-Van Lith (2007) identified this to be a reason non-specific interventions appear to have weaker empirical evidence compared to specific or trauma-focused interventions. Furthermore, while non-specific interventions may be useful for many children, some children will likely to benefit from intensive interventions or therapies that often involve explicit discussions and reconstructions of the traumatic experiences.

As a result, a two-phase approach where specific interventions are delivered to children who did not benefit from broad psychosocial interventions was proposed as a model of intervention (Kalsma-Van Lith, 2007). For example, Olij's (2005) report on a school-based project for Rwandan adolescents who survived the 1994 genocide conveyed the feasibility of a two-phase approach. In this project, school staff were trained to recognise signs of PTSD and to develop basic counselling skills. Services for students included psychoeducation and activities for students to express their emotions using creative arts. Students were also encouraged to seek individual or group counselling from school counsellors. Using project reports from participating schools and interviews with key stakeholders, Olij concluded that the project has empowered staff and students to recognise symptoms of trauma, reduced the number of crisis outbreaks in school, and helped students to feel accepted by others. A more important finding was that students highlighted the need for counsellors to provide trauma counselling services to those students who require individual assistance. These findings showed the value of non-specific interventions and the importance of offering specific interventions to children who have more specific needs. The following section will involve a discussion of the current research evidence for these interventions.

3.3 Specific Interventions

A variety of specific interventions have been used with war-affected adults and children. They include psychodynamic therapy, eye movement desensitization and reprocessing, psychopharmacological treatment, hypnotherapy, and CBT. Some of these interventions have been found to successfully reduce symptoms of PTSD

and most of them involve a direct discussion about the traumatic material. In addition, these interventions can be used on their own or in combination with other interventions. A discussion of evaluation studies that have examined the efficacy of specific interventions in improving the emotional and behavioural well-being of traumatised children, with a focus on war-affected children, will now be presented.

3.3.1 Psychodynamic Therapy

Psychodynamic or psychoanalytic therapy has a long history in the treatment of trauma survivors. The centre of psychodynamic theory of PTSD is the overwhelmed ego which is not able to integrate traumatic memories (Varvin, 1998). Using case studies, Varvin described the process of recovery for two traumatised adult refugees using a psychoanalytic approach. Varvin described treating a woman who was tortured and experienced frequent flashbacks. The client first presented as having severe difficulties in talking and gave only a fragmented trauma story, but after two years of therapy she was able to talk to the therapist and slowly assembled fragmented aspects of herself. In another case study, Varvin presented a client who was unable to mourn over the loss of her child. In therapy, the client relived or re-symbolised her past through transference and when this was processed, she was able to mourn for her child.

In an RCT, Lieberman, van Horn, and Ippen (2005) compared the effects of child-parent psychotherapy, a psychodynamic intervention that focuses on both parent and child, with standard case management. The study involved 75 very young children (aged 3 to 5 years) and their mothers who were exposed to marital violence. The weekly joint child-parent psychotherapy occurred over 50 weeks and lasted 60 minutes each session. The average number of child-parent psychotherapy sessions completed was 32.09. In comparison, those in the case management condition received general monitoring of symptoms and individual psychotherapy from the community. Mothers in the case management condition received between 2 and 50 individual sessions (50% had more than 20 sessions) and children received between 6 and 50 individual sessions (65% had more than 20 sessions). Results showed that children in the child-parent psychotherapy condition demonstrated a significant prepost reduction of PTSD symptoms (Cohen's $d = 0.63$) compared to children in the case management condition. There was also a significant intervention effect on

children's behaviour problems (Cohen's $d = 0.24$). The number of children who met the diagnostic criteria of PTSD in the intervention and case management conditions differed significantly (6 vs. 36) at posttest even though there were no such differences at baseline.

In a recent study, Schottelkorb, Doumas, and Garcia (2012) presented the results of a direct comparison of a psychodynamic intervention and a CBT intervention. The study consisted of 31 refugee children (aged 6 to 13 years) living in the United States. The psychodynamic intervention comprised a child-centred play therapy delivered twice weekly for 30 minutes each (an average of 17 sessions). The CBT intervention included a standard trauma-focused CBT and was delivered twice-weekly in 30-minute sessions (an average of 17 sessions). Children who had partial or full PTSD symptoms or scored in the clinical range of the parent-rated PTSD scores were randomised into either intervention. Results showed that neither the main effect for time ($\eta^2 = 0.04$; $\eta^2 = 0.07$) nor the interaction effect ($\eta^2 = .00$; $\eta^2 = 0.05$) for the child-rated and parent-rated PTSD scores was statistically significant. However, when the data from a sub-sample of children who had full PTSD were analysed, a significant main effect for time was observed on the child-rated ($\eta^2 = 0.43$) and parent-rated ($\eta^2 = 0.57$) PTSD scores, suggesting that both therapies were effective in reducing PTSD symptoms in these children. The authors described close adherence to treatment content but did not report further details. Furthermore, long-term maintenance and psychosocial functioning were not examined.

In sum, psychodynamic intervention has demonstrated some positive results in treating abused children. However, very few studies have empirically tested the efficacy of psychodynamic therapy for war-affected children and one of these was conducted by Schottelkorb et al. (2012). Schottelkorb et al. found that child-centred therapy was as effective as trauma-focused CBT for war-affected children with severe PTSD but no such effect was found for children who had partial symptoms. Hence, further research is needed.

3.3.2 Eye Movement Desensitization and Reprocessing

Eye movement desensitization and reprocessing (EMDR), discovered serendipitously by Francine Shapiro in 1987, is another therapy used for the treatment of trauma survivors (Chemtob, Tolin, Van der Kolk, & Pitman, 2000). In

this approach, trauma memories are believed to be caused by unsuccessful integration of memories with wider memory networks causing sensory stimuli associated with the event to be easily triggered (Shapiro, 1995). Dual attention tasks, such as eye movements and hand tapping, are used by EMDR therapists to aid the successful integration of trauma memory at a neurophysiological level. Since its discovery, EMDR has been rigorously studied using single case studies and well-design controlled trials, and is recognised as an evidenced-based treatment for PTSD even though the mechanism of change underlying EMDR is still being studied (Spates, Koch, Cusack, Pagoto, & Waller, 2008).

In a case study, Zaghrou-Hodali, Alissa, and Dodgson (2008) described the outcomes of a group EMDR for seven refugee children (aged 8 to 12 years) living in a refugee camp in Palestine. A standard EMDR protocol for group was implemented. The program occurred for four sessions and each session lasted for one-and-a-half to two hours. The group program was delivered as an acute intervention because all of the children were exposed to a shooting five days prior to the referral. Results suggested that the subjective units of distress score of each child reduced from the initial ratings of 8 and 10 in the first session to 0 and 1 in the final session. In addition, clinician observations and parental reports suggested that all of the PTSD symptoms had dissipated and that the children were playing more cooperatively after the intervention. However, standardised outcome measures were not employed.

Using standardised measures, Oras et al. (2004) examined the effects of EMDR (combined with psychodynamic therapy) for refugee children and found large intervention effects on PTSD, depression, and overall functioning. The study involved 13 refugee children (aged 8 to 16 years) who met the diagnostic criteria of PTSD and were seeking refugee status in Sweden. The therapy targeted traumatic memory using a mix of EMDR and play therapy (children) or conversational therapy (adolescents). The number of sessions received by each child varied from 5 to 25 and the content was tailored to the motivation and developmental stages of the children. However, due to the heterogeneity in the number of sessions each child received, it is difficult to ascertain the intervention dosage each child had received. In addition, EMDR was combined with traditional psychotherapy so the unique effects of EMDR were not examined. Furthermore, Oras et al. indicated that the status of residency may have contributed to the study outcomes in that children's condition improved

when their residency status became more certain. The findings are also limited by small sample size, and the absence of a control condition and treatment fidelity protocol.

In summary, preliminary results from Zaghrou-Hodali and colleagues' (2008) and Oras and colleagues' (2004) studies suggest that EMDR may be an effective treatment in reducing PTSD symptoms and improving functioning in refugee children. However, the results should be interpreted with caution due to methodological limitations.

3.3.3 Narrative Exposure Therapy

Narrative exposure therapy (NET) is a standardised brief intervention developed for traumatised war survivors living in post-conflict settings (Neuner et al., 2002). Building on the principle of exposure therapy, the two primary components of NET are (a) exposure therapy, where patients repeatedly talk about the worst traumatic exposure to achieve habituation; and (b) testimony therapy, where patients construct a chronological account of their life (Neuner, Schauer, Klaschik, Karunakara, & Elbert, 2004).

In a well-designed trial, Neuner et al. (2004) randomly allocated 43 Sudanese adult refugees with a PTSD diagnosis into one of the three comparison groups: psychoeducation only (one session), psychoeducation and supportive counselling (four sessions), or psychoeducation and NET (four sessions). Psychoeducation consisted of a standard information session about the nature and prevalence of symptoms. NET involved construction of a detailed chronology of each participant's traumatic experience and habituation to the experience. Supportive counselling, on the other hand, focused on problem-solving of current issues. The authors reported no major deviation from treatment protocol but no details were reported. Participants were assessed using standardised measures at immediate posttest, 4-month follow-up, and 12-month follow-up. Contrast analysis showed participants in the NET condition (Cohen's $d = 1.6$) experienced a significant reduction in PTSD symptoms from pretest to 12-month follow-up, compared to participants in the supportive counselling (Cohen's $d = -0.1$) and psychoeducation condition (Cohen's $d = -.09$). In addition, there was a significantly lower proportion of NET participants (50%) meeting PTSD diagnosis at posttest, compared to the other two groups (77% in

supportive counselling and 91% in psychoeducation). Unfortunately, these differences were not established in comorbidity symptoms and quality of life, which the authors attributed to small sample size. The methodology rigor of this RCT is impressive given that participants in this study were living in Ugandan refugee settlements where ongoing threats and poverty abound.

Several RCTs of NET for war-affected children have been published (Catani et al., 2009; Ertl, Pfeiffer, Schauer, Elbert, & Neuner, 2011; Ruf et al., 2010). For example, Ruf et al. randomly allocated 26 refugee children (aged 7 to 16 years) living in Germany with a PTSD diagnosis into the NET condition (13 children) and the waiting list control condition (13 children). Children in the NET condition received 7 to 10 individual sessions (90 to 120 minutes each) of the child-adapted NET (KIDNET). The KIDNET comprised 8 individual weekly sessions of 90 to 120 minutes each but the actual number of sessions received by the children ranged from seven to nine sessions according to clinician's judgment. The main focus of KIDNET was to construct a chronological narrative of the child's life with therapist-guided exposure to traumatic memories. Results showed that children in KIDNET reported significantly lower PTSD (Hedge's $g = 1.9$) and functional impairment scores (Hedge's $g = 1.7$) from pretest to 6-month follow-up but children in the control condition did not. At 6-month follow-up, only 17% of KIDNET children still met PTSD diagnosis compared to 70% in the control condition. The improvements in KIDNET were maintained at 12-month follow-up. The findings are promising but the study sample was small and the possible impact of interpreters in some cases ($n = 7$) was not examined. Treatment integrity was not reported and feedback from significant others was not obtained.

The unique effects of testimony therapy have also been studied with refugees. The main focus of testimony therapy is the retelling of traumatic experience and the preparation of a written testimony for advocacy (Lustig, Weine, Saxe, & Beardslee, 2004). An advantage of testimony therapy compared to other interventions is its focus on the social and political aspects of the experience rather than on the inner experience of the person, which may be more palatable to some people. In light of these advantages, Lustig et al. presented a case study of testimony therapy with three Sudanese refugee adolescents resettled in Boston. Participants gave their testimonies individually and anxiety management training was conducted in the first session

before participants started the testimonies. Each subsequent session involved editing earlier testimonies and continual construction of the testimonies. Each session lasted for about an hour and there were 3 to 9 sessions. Lustig and colleagues indicated that the experience was rated highly by the children and none of the children encountered any difficulties speaking about their experience.

Although psychological symptoms were not assessed in Lustig and colleagues' (2004) study, an earlier adult study with pretest, posttest, and follow-ups provided empirical evidence for the efficacy of testimony therapy in reducing PTSD symptoms in traumatised refugees. Using a sample of 20 adult Bosnian refugees resettled in Chicago (approximately one year earlier), Weine, Kulenovic, Pavkovic, and Gibbons (1998) found that PTSD diagnosis rate dropped from 100% at pretest to 75% after 4 to 8 sessions (about 90 minutes each) of testimony therapy. The rate further decreased to 70% at 2-month follow-up and 53% at 6-month follow-up. Results from mixed-effects regression models which accounted for cluster effects demonstrated significant reductions in PTSD and depression symptoms, and improvements in functioning scores from baseline to 6-month follow-up.

Expressive writing (Pennebaker & Chung, 2011) is another technique that involves writing about traumatic experiences. Lange-Nielsen et al. (2012) recently examined the effectiveness of a manualised group intervention that contains six writing sessions that coaches children to produce a coherent narrative of a traumatic event with an emphasis on sensory experiences. The sample comprised 139 adolescents (aged 12 to 17 years) living in war-affected Gaza strip, with half of the sample reporting clinical levels of PTSD symptoms. In contrast to the researchers' expectation, no substantial symptom relief for the children who received the intervention compared to children in the waiting list condition was found. Furthermore, an elevation of depression symptoms was reported following the intervention. Even though the results were not as positive as expected, the study was unique because it was the first study to have systematically investigated the benefits of expressive writing for children living in war-affect areas.

In sum, NET and testimony therapy are distinguished from other psychotherapy because of their focus on the social, historical, and political context of trauma. In addition, NET was specifically designed for refugees with multiple traumatic exposures living in low-income countries and can be delivered by non-

mental health professionals (Neuner et al., 2002). The effects of NET for war-affected children have been examined in several controlled and RCT studies with promising outcomes.

3.3.4 Psychopharmacological Therapy

Psychopharmacological treatments have also received increasing attention from clinicians working with traumatised clients (Friedman, 2012). Although still in its infancy, medications like selective serotonin reuptake inhibitors (SSRI) and antidepressants have been trialled with adults in several RCTs (Davidson, Rothbaum, van der Kolk, Sikes, & Farfel, 2001). The efficacy of sertraline for childhood PTSD was examined by Robb, Cueva, Sporn, Yang, and Vanderburg (2010). The study involved 131 children (aged 6 to 17 years) with a diagnosis of PTSD and exposed to a varied range of trauma. Children were recruited from multiple outpatient sites and were randomised into receiving 10 weeks of sertraline (50-200mg/day) or placebo. They also received three sessions of psychoeducation and CBT-based anxiety management sessions prior to group allocation. Results showed no significant differences between children in the sertraline and placebo conditions on all outcomes at any assessment points. In addition, more sertraline patients (13%) compared to placebo patients (8%) reported increased suicidality during treatment, consistent with the recent warning about the increased risk of suicidality in children and adolescents receiving antidepressants (Food and Drug Administration, 2007, May 2). Robb and colleagues' (2010) findings are also consistent with J. A. Cohen and colleagues' (2007) findings that sertraline does not add extra benefits to CBT in the treatment of PTSD in children.

In terms of the benefits of pharmacology treatment for PTSD in refugees, several evaluation studies have been published. In a pilot study, Smajkic et al. (2001) recruited 32 Bosnian refugees (mean age = 51.34 years) resettling in Chicago and randomly allocated them into one of the SSRI conditions: sertraline, paroxetine, and venlafaxine. The dosage of sertraline was 50-100mg/d; paroxetine 20mg/d, and venlafaxine 37.5-75mg twice daily. In addition, six participants received 0.5mg of clonazepam on top of the SSRI. Translated Bosnian PTSD, depression, and functioning measures were administered at pretest and posttest (6 weeks after) by clinicians familiar with using the measures with Bosnian refugees. Results

demonstrated that participants in all of the conditions reported a significant reduction in PTSD symptoms and a significant improvement in functioning scores with large effect sizes. In addition, participants in the sertraline and paroxetine conditions further demonstrated a significant reduction of depression symptoms with large effect sizes. However, despite the symptomatic improvements, all of the participants continued to meet the diagnostic criteria of PTSD at posttest. Furthermore, given that supportive counselling was delivered concurrently with the medication, it was unclear whether the treatment outcomes were due to a combination of counselling and pharmacology treatment. No placebo control was employed.

Some researchers have attempted to compare the effects of medication with the effects of psychological interventions in treating PTSD in refugees. Drozek (1997) described a trial comparing group therapy with drug therapy in reducing PTSD symptoms in a sample of Bosnian refugees (aged 27 to 41 years) living in the Netherlands. Refugees who met the diagnostic criteria of PTSD received one of the three treatments (group therapy; drug therapy; group and drug therapy). The bi-weekly supportive group therapy (48 sessions in total) focused on stabilising symptoms, revisiting trauma, reframing experience, and preparing for resettlement. On the other hand, the drug therapy consisted of anxiolytics (diazepam and oxazepam) and tricyclic antidepressants (amitryptiline and clomipramine) but exact dosage was not described. All treatments lasted for six months. Included in the study were also refugees who met the criteria but rejected treatment and refugees who met partial criteria but did not receive treatment. A random sample of 50 participants (equal representation from the five conditions) was assessed at pretest, posttest, and 3-year follow-up. At posttest, 73% of the treated participants were free of the diagnosis, compared to 10% of the untreated participants. The results of the 3-year follow-up were less positive, with 83% of the treated participants remaining with the diagnosis, compared to 60% of the untreated participants. In addition, no significant differences between the three treatment conditions were found at post treatment and 3-year follow-up. The findings are limited by the absence of random allocation and detailed reports of each treatment regime.

Although sertraline was tested for children with PTSD (Robb et al., 2007), no medication is approved by the treatment of childhood PTSD (Donnelly, 2009). It is my understanding that there is yet to be any published RCTs that have examined the

effects of pharmacological treatment for PTSD in traumatised war-affected children. Therefore, there is yet to be concrete empirical evidence for the efficacy of pharmacological treatment in reducing PTSD symptoms in war-affected children and it should not be considered the first treatment of choice for them (Barenbaum et al., 2004).

3.3.5 Hypnotherapy

The application of hypnotic techniques in traumatised patients has a long history and has shown to be a useful technique in many case studies (Cardena, Maldonado, van der Hart, & Spiegel, 2009). There is evidence to suggest that people who have been traumatised are more hypnotisable (Friedrich, 1991). In fact, the experience of flashback is thought to be very similar to hypnotic phenomena (Spiegel, 1997).

Rhue and Lynn (1991) described using storytelling, a naturalistic hypnotic technique, in their work with 32 sexually abused children (aged 4 to 10 years). The length of therapy ranged from months to years. Specific techniques employed included imagining favourite place, favourite story, relaxation, and images of power and control. A substantial amount of time was usually spent on building a trusting relationship between therapist and child before addressing complex emotional issues. For example, Rhue and Lynn described a case study of an eight-year-old girl who was referred for enuresis, frequent nightmares, and inappropriate sexual behaviour with her toys. Because the child denied being abused, storytelling technique which is a less directive hypnotherapy technique was used to build a relationship with her until she was ready to talk about her abuse. This occurred after 15 sessions. In another case study report, Friedrich (1991) described using hypnotherapy to help four traumatised children who presented with different presenting problems. Consistent symptom reduction was observed in two children who were assessed with objective checklists.

In accord with the mainstream literature, systematic treatment outcome studies of hypnotherapy for war-affected populations are rare. Gafner and Benson (2001) presented a clinical report on the techniques used with refugees from El Salvador and Guatemala who presented to a refugee clinic in Arizona. Garner and Benson contended that exposure therapy is too aversive and therefore less directive

treatment, such as metaphors and stories, would be more acceptable. Gafner and Benson described using these techniques for ego-strengthening to prepare their clients for further hypnotherapy or other therapies. They indicated that outcome measures such as PTSD, depression, and anxiety scales were used to measure changes in their clients but treatment outcomes were not presented in the paper. In light of these current findings, it may be concluded that more substantial evidence is needed to support the efficacy of hypnotherapy in the treatment of PTSD in war-affected children.

In summary, a number of specific psychological interventions have been used to reduce symptoms of PTSD and associated problems in war-affected children. These interventions have different theoretical backgrounds and agents of change. A direct comparison of the efficacy of these interventions is complicated by the heterogeneity of the studies. These studies have involved children of different age groups, study settings, time since trauma, severity of distress, and assessment method. This issue was reflected in Peltonen and Punamäki's (2010) meta-analysis. The authors identified 16 published studies that have evaluated the impacts of psychosocial interventions on children affected by armed conflict but reported that only four studies provided sufficient information for the meta-analytic calculation of the overall intervention effect size. The effect sizes of these four studies ranged from large to small and the weighted mean effect size was estimated to be medium (Cohen's $d = -0.56$). However, the authors cautioned readers of the statistical heterogeneity of these studies and the two studies that had a 95% confidence interval that included zero. They also observed that most of the studies (7 out of 16 studies) in their review employed CBT-based interventions. Therefore, the next section will review the benefits of CBT-based interventions for traumatised children.

3.4 Cognitive Behavioural Therapy

CBT is an approach that employs cognitive and behavioural techniques to target irrational thoughts/beliefs and avoidant behaviour (Friedman, 2012). CBT has been used to treat children suffering from PTSD following a wide range of traumatic events, including earthquakes (Giannopoulou, Dikaiakou, & Yule, 2006; Goenjian et al., 1997), hurricanes (Chemtob, Nakashima, & Hamada, 2002), motor vehicle accidents (Stallard, Velleman, & Baldwin, 1998), and sexual abuse (J. A. Cohen,

Deblinger, Mannarino, & Steer, 2004; King et al., 2000b). Trauma-focused CBT is recommended for the treatment of PTSD by international bodies, including the Australian National Health and Medical Research Council and the International Society for Traumatic Stress Studies (Australian Centre for Posttraumatic Mental Health, 2007; Foa, Keane, Friedman, & Cohen, 2009). A brief discussion on the mechanisms underlying CBT for PTSD will be discussed, followed by empirical evidence of CBT in the treatment of PTSD in mainstream and war-affected children.

Learning theory. The theoretical model underpinning trauma-focused CBT intervention is mainly built on conditioning theory. Mowrer's (1960) two-stage theory of fear posits that PTSD reactions arise from pairing of unconditioned stimulus (traumatic event) with unconditioned response (intense fear). Although the same event may not occur again, stimulus resembling the original trauma (conditioned stimulus) can cause similar reactions (conditioned response). As a result, avoidant behaviours function to avoid stimulus resembling the original trauma and are negatively reinforced through the avoidance of negative emotions.

Network of fear. Although Mowrer's (1960) learning theory explains the link between initial reactions to subsequent reactions and the functional purpose of avoidance, it does not include the more complicated cognitive processes. A more comprehensive model that encapsulates the nature of trauma memory and cognitive processes was proposed by Foa, Steketee, and Rothbaum (1989). Foa et al. proposed that PTSD is related to an individual's network of fear which contains personal interpretation of events, cues, and reactions formed following a traumatic event. Because trauma challenges an individual's belief about safety, the fear network can be easily triggered by many environmental cues. The activation of any information contained in this structure causes extreme emotions; therefore, avoidant behaviours are engaged to avoid this activation. According to this theory, fear network should be activated and processed so that fear and anxiety can be habituated and their associations weakened. The model was further elaborated by Foa and Rothbaum (1998) to emphasise the role of negative appraisals and the mechanism to promote habituation through exposure exercises.

Exposure therapies comprise imaginal exposure and in vivo exposure. Imaginal exposure involves only visual imagination of stimuli; whereas, in vivo exposure involves direct discussion of the traumatic event or returning to the site of

the event (J. A. Cohen, Berliner, & Mannarino, 2000). Several studies have tested the effects of exposure techniques on PTSD symptoms. For example, van Minnen and Hageraars (2002) compared patients who improved and those who did not improve after nine sessions of prolonged imaginal exposure and found patients who improved experienced significantly greater increase of anxiety in the early treatment sessions. Compared to those who did not improve, these patients experienced habituation to their arousal experience. This shows that exposure and habituation are crucial for symptom reduction.

Dual representation theory. In contrast to Foa and colleagues' (1989) one system theory, Brewin et al. (1996) proposed the dual representation theory which posits trauma memory to be distinctively different from normal memories. According to this theory, trauma patients have two memory systems operating in parallel. Brewin and colleagues suggested that flashbacks represent the "situationally accessible memory" which contains emotions and bodily experiences of the trauma that are involuntarily triggered by reminders. In contrast, narrative memory of a trauma reflects "verbally accessible memory" which contains conscious evaluation of trauma and consequences of trauma that can be accessed voluntarily.

Using a sample of 62 individuals with a PTSD diagnosis, Hellawell and Brewin (2004) found narrative written when flashback occurred to be more detailed, perceptual, and emotional than narrative written during ordinary memory. This supported the dual representation theory of trauma memory proposed by Brewin et al. (1996). In children, the findings that children, even very young children, possess nonverbal memories of a traumatic event (Azarian, Skriptchenko-Gregarian, & Miller, 1999) and of the presence of visual flashbacks or re-enactment of trauma (Perrin et al., 2000; Terr, 1983) indicate that traumatised children, like adults, can have inappropriately elaborated memory which results in involuntary triggering of the sensations associated with the memory.

Although the dual representation theory did not discover any new techniques for the treatment of PTSD, the implication of this theory for PTSD treatment is two-fold. First, cognitive techniques, such as re-appraisal of the trauma, can be used to address negative appraisals and increase perceived control. Second, the association between trauma and emotion in the "situationally accessible memory" could be changed by creating a new memory through habituation and cognitive restructuring.

This new memory will contain information about the trauma, but without the intensity of emotions associated with it.

Cognitive model. The predominant model for CBT treatment of PTSD is cognitive theory (Ehlers & Clark, 2000). Similar to the dual representation theory, cognitive model conceptualises PTSD to be caused by the nature of trauma memory and negative appraisals. However, cognitive theorists see trauma memory as lacking context which results in poor intentional retrieval but easily triggered trauma memory, and the ongoing sense of trauma. Therefore, in order to inhibit involuntary retrieval of sensory and bodily reactions, the process of recovery should entail assigning of specific contextualisation information to the trauma memory. In addition, dysfunctional beliefs about trauma, own responses, symptoms, and others' reactions are also believed to cause negative emotions and unhelpful coping strategy, including repression, avoidance, and safety behaviour. Evidence for the role of maladaptive cognitions, such as cognitive processing during exposure (Halligan, Michael, Clark, & Ehlers, 2003), avoidance and negative interpretation of symptoms (Dunmore, Clark, & Ehlers, 2001), and thought suppression (Steil & Ehlers, 2000), in maintaining persistent PTSD can be found in the literature. Given that traumatic events happened in the past, much of trauma work had to be done cognitively so that new interpretations could be developed. The therapeutic implication of cognitive theory is then to correct misappraisals, to reduce avoidant behaviour that prevents elaboration of memory, and to elaborate trauma memory so that it can be integrated and become a normal memory (Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998).

3.4.1 CBT Components

CBT for PTSD generally includes psychoeducation, exposure therapy, cognitive restructuring, and anxiety management (Bryant, 2011). Plenty of studies have been conducted to compare the mechanism of the different components of CBT for the treatment of PTSD. In a sample of 82 adults, Marks et al. (1998) compared the specific effects of cognitive restructuring with those of exposure therapy and found both cognitive restructuring and exposure therapy to equally reduce PTSD, depression, and anxiety symptoms. However, the combination of exposure and cognitive restructuring did not yield significant enhancement and large effect sizes

were observed in all of the interventions. Marks et al. hypothesised that exposure therapy and cognitive therapy operate on different mechanisms; therefore, combining both techniques led to a reduced dose-effect from each technique. Consistent with Marks and colleagues' (1998) study, Paunovic and Öst (2001) compared individual CBT (comprises breathing, cognitive restructuring, and exposure) with exposure therapy in the treatment of 16 adult refugees in Sweden and found similar results.

Cognitive techniques have been used to challenge maladaptive cognitions in children with PTSD (Gafner & Benson, 2001; Goenjian et al., 1997; Smajkic et al., 2001; Vickers, 2005). However, like adult studies, cognitive techniques in child studies are usually used with other techniques; therefore, the specific impact of cognitive techniques is less readily observed. J. A. Cohen and Mannarino (2000) nonetheless found abuse-related cognitions, such as self-blame and poor perceived credibility, to be a strong predictor of treatment outcomes in a study involving sexually abused children. Similarly, Smith and colleagues (2007) found changes in maladaptive cognitions to partially mediate the effect of a CBT intervention on PTSD symptom reduction in a sample of children exposed to single-event trauma.

Although the different models underlying CBT for PTSD treatment differ to a certain extent in some of their conceptualisations, all of them agree on the benefits of reliving trauma (Brewin & Holmes, 2003). For this reason, exposure therapies have been used consistently across most CBT treatments for PTSD. Cognitive therapies, such as cognitive restructuring and thought stopping, are crucial components of CBT interventions given the influential role one's cognition plays in the maintenance of PTSD symptoms and during exposure therapies. Furthermore, considering that PTSD patients often experience hyperarousal symptoms and that anxiety-provoking exposure therapies evoke strong negative emotions, anxiety management training exercises are generally included in CBT interventions for PTSD (K. E. Murray et al., 2008). Empirical studies that have examined the effects of CBT for childhood PTSD, particularly in war-affected children, will now be discussed.

3.4.2 Empirical Evidence of CBT for Childhood PTSD

Smith et al. (2007) conducted an RCT of individual trauma-focused CBT for children and adolescents who met the diagnostic criteria of PTSD after exposure to a single-event trauma. A total of 24 children (aged 8 to 18 years) were randomised

(stratified by age, sex, and initial symptom severity) into the CBT or waiting list control conditions. The CBT sessions occurred for 10 weeks (median number of sessions completed was 9) and were mainly child-only sessions with occasional joint parent-child sessions. The intervention was manualised, and comprised cognitive structuring, psychoeducation, and behavioural experiments. Anxiety management training was excluded because “formal relaxation training does not therefore appear necessary for therapeutic effect or for patients’ acceptance of treatment (p.1059).” The intervention was implemented by trained psychologists but the results of treatment adherence were not reported. Posttest was conducted a week following the end of intervention and prepost changes showed large intervention effects, with children in the CBT condition reported greater improvements in the child- and clinician-rated PTSD scores, child-rated depression and anxiety scores, and child-, parent-, and clinician-rated functioning scores, compared to children in the control condition. Improvements were maintained at 6-month follow-up. In addition, there was a significant difference between the CBT and control conditions in the number of participants who were free of the diagnosis at posttest (90% vs. 40%). As predicted by the cognitive model of PTSD, improvement on PTSD symptoms was partially mediated by changes in trauma-related beliefs. The results, however, were probably limited by the small sample size and generalisation of the results to children exposed to multiple-trauma was cautioned (Smith et al., 2007). Nevertheless, the strong therapy effects yielded by such a short therapy (without anxiety management training) were impressive.

In another large and well-designed RCT, CBT was compared with an alternative therapy. J. A. Cohen et al. (2004) compared the efficacy of trauma-focused CBT with child-centred therapy for multiply traumatised sexually abused children. The 229 children (aged 8 to 14 years) with at least partial diagnosis of PTSD were randomly allocated into the CBT or child-centred therapy. The CBT comprised psychoeducation, coping skills, expressive skills, cognitive restructuring, exposure, and joint-parent child sessions. The child-centred therapy, on the other hand, was less prescriptive and focused on re-establishing trusting parent-child relationships by creating a space for them to communicate and express abuse-related feelings. Therapist treatment adherence of both therapies was rated to be over 95%. A maximum of 12 therapy sessions were offered to participants in both conditions,

with 73% completing all 12 sessions. Medium to large intervention effects were observed for PTSD, depression, behaviour problems, shame, interpersonal trust, parental depression and abuse related distress, parenting practice, and parental support. Each group had about 90% of children meeting full PTSD diagnosis at pretest but CBT had only 20% of participants meeting full diagnosis at posttest compared to 50% in the comparison condition. However, no follow-up was conducted.

Considering that both Smith et al. (2007) and J. A. Cohen et al. (2004) have included only children aged eight years and above in their studies, the generalisation of their results to younger children may be limited. The effects of CBT for very young children were examined by Scheeringa, Weems, Cohen, Amaya-Jackson, and Guthrie (2011). Sixty-four children (aged 3 to 7 years) with PTSD symptoms following exposure to various types of trauma were randomised into the intervention or waiting list control condition. The manualised 12-session trauma-focused CBT contained psychoeducation, coping skills, feeling recognition, graded exposure, and safety planning. A large effect size was observed for PTSD while the effect sizes for other symptoms were in the medium to large range. PTSD symptoms significantly reduced in the trauma-focused CBT condition compared to the control condition but comorbid disorders improved in both conditions. Six-month follow-up results indicated statistically significant reductions of most outcomes and larger effect sizes for some outcomes. Therapist-rated component feasibility reports indicated that 84% of the treatment components were understood and completed by children, with younger children having more difficulty with imaginal exposures but visual aids improved comprehension. While the results suggest the potential efficacy of CBT for very young children with PTSD, the generalisation of the findings to wider the population may be limited by the high proportion of single parents (72%) and minority groups (60% African-American) in the study.

Some researchers have also attempted to run CBT in group settings (March et al., 1998; Stein et al., 2003). A large RCT of group CBT involving patients with multiple traumas was conducted by Stein et al. The sample comprised 126 students (mean age ranged from 10.9 to 11 years) who reported clinical levels of PTSD symptoms following exposure to multiple violent events. Similar to March and colleagues' (1998) intervention, this 10-week Cognitive-Behavioural Intervention for

Trauma in Schools included the standard CBT components, such as psychoeducation, relaxation training, cognitive therapy, and exposure. The manualised programme also included social problem-solving and two individual sessions on imaginal exposure. High clinician treatment adherence was reported. Participants were randomly allocated into the immediate or a waitlist delayed intervention condition. Small to large intervention effects were observed for self-report PTSD (Cohen's $d = 1.08$) and depression (Cohen's $d = 0.45$), and parent-report psychosocial dysfunction (Cohen's $d = 0.77$). However, these differences were not reported by the teachers. The absence of a treatment effect based on teacher reports highlighted the advantage of obtaining information from informants who are able to observe children in contexts other than school.

Kataoka et al. (2003) described the results of a large quasi-experimental study that examined the efficacy of a group-CBT in reducing PTSD symptoms in a sample of 198 Latino immigrant children (mean age = 11 years) exposed to violence. Almost 90% of the participants reported clinical symptoms of PTSD, 10% reported depression only, while 30% had both PTSD and depression. The 8-session group intervention comprised standard CBT components similar to March and colleagues' (1998) individual CBT treatment for PTSD. The intervention also included an individual session for in vivo exposure, and information sessions for parents and teachers. Participants in the control condition were referred to community mental health services. After adjusting for clustering effects, the authors reported greater improvements in the intervention condition on PTSD (Cohen's $d = 0.33$) and depression (Cohen's $d = 0.30$) symptoms from baseline to posttest (3 months after baseline), compared to the control condition. Apart from treatment allocation, several demographic factors, such as gender, country of origin, violence exposure, were found to predict treatment outcomes. The study limitations included the absence of a full random allocation procedure (85 participants were not randomised into conditions) and the lack of a standardised treatment protocol (four family sessions were offered but only 37% parents attended at least one session). The results of the study nonetheless provided preliminary evidence for the efficacy of a school-based trauma-focused intervention delivered by school facilitators for immigrant children exposed to violence.

To further investigate the effects of school-based CBT for children in low-income countries, Tol et al. (2008) conducted an RCT with children living in Indonesia. A total of 403 children (aged 7 to 15 years) exposed to at least one violent event and who reported symptoms of PTSD and depression were randomised by school into the intervention condition or the waiting list control condition. Child-rated and parent-rated outcome measures were assessed at pretest, posttest, and 6-month follow-up. The 15-session manualised intervention targeted psychoeducation, stabilisation of symptoms, trauma narrative, and resilience using CBT and creative expression exercises. The groups were delivered by local facilitators and average treatment adherence was almost 90%. After accounting for clustering effects, significant intervention effects were found on PTSD (Cohen's $d = 0.55$ at posttest; Cohen's $d = 0.44$ at follow-up) and hope scores (Cohen's $d = 0.29$ at posttest; Cohen's $d = 0.38$ at follow-up). Non-significant intervention effects were observed on other outcomes, including depression (Cohen's $d = 0.31$ at posttest; Cohen's $d = 0.24$ at follow-up). Potential mediators (e.g., hope and social support) and moderators (e.g., age and sex) of treatment outcomes were examined but only peer social support was found to mediate the treatment effects (Tol et al., 2010). Sex, small household size, and social support from adults outside the household were significant moderators.

The effects of group CBT have also been examined in the context of children exposed to natural disaster. Giannopoulou, Dikaiakou, et al. (2006) reported implementing a manualised group-based CBT intervention for 20 children (aged 8 to 12 years) shortly after the Athens 1999 earthquake. The children were referred to a child and adolescent mental health service and were diagnosed with PTSD. Children were allocated into either the immediate treatment condition or the delayed treatment condition, but allocation was not random. The treatment protocol was adapted from Smith and colleagues' (2000) Teaching Recovery Techniques (TRT) programme which included psychoeducation, techniques for managing intrusive images, techniques for managing frightening dreams, relaxation techniques and coping self-statements, and graded exposure. Parents attended a pre-intervention information session and a weekly consultation that lasted 30 minutes. The programme was facilitated by trained professionals, and occurred for six weeks and each session lasted for two hours. No information about treatment adherence was provided.

Treatment outcomes were measured using child-reported PTSD and depression symptoms, and parent-rated psychosocial functioning at pretest, posttest, 18-month follow-up, and 48-month follow-up. Significant reductions over time were observed in PTSD ($\eta^2 = 0.97$), and depression symptoms ($\eta^2 = 0.73$). Specifically, the reductions were significant from pretest to posttest and at 18-month follow-up but there was no further reduction at 48-month follow-up. Furthermore, only 2 out of the 17 children remained with the diagnosis at posttest. Although the results may have been limited by the small sample size and the absence of a control comparison condition (results from immediate and delayed treatment groups were analysed as a group), the long follow-ups provided important information about the long-term sustainability of CBT intervention.

In summary, evidence from these studies suggests the efficacy of CBT intervention, both individual and group, in reducing PTSD and associated symptoms and in improving psychosocial functioning of children exposed to trauma. These studies were conducted with children of all ages, exposed to a myriad of trauma of which the majorities were single-event trauma. Many of these interventions were child-focused (e.g., Tol et al., 2008) whereas others have included parent sessions (e.g., J. A. Cohen et al., 2004). In addition, group- and school-based CBT has been utilised to help children exposed to larger scale traumatic events, such as natural disaster (e.g., Giannopoulou, Dikaiakou, et al., 2006), community violence (e.g., Kataoka et al., 2003) or political conflicts (e.g., Tol et al., 2008). CBT interventions for a war-affected population, with a specific focus on children, will now be discussed.

3.4.3 Empirical Evidence of CBT for War-affected Children

Although evaluation studies conducted with war-affected population are more limited compared to studies conducted with mainstream population, both individual and group-based CBT interventions have been employed with traumatised refugee children. In a review of CBT for children, K. E. Murray et al. (2008) advocated the testing of CBT with traumatised refugee children, stating that CBT should be considered advantageous over other therapies because of its skill-oriented and time-limited nature. Using two case studies, Vickers (2005) demonstrated the suitability of CBT for refugee children with PTSD symptoms. She presented two successful PTSD

treatment scenarios of which one was a 14 year-old African refugee who witnessed the killing of her mother in war and the other a 6-year-old Balkan refugee who witnessed the death of a friend by lightning strike. Both children presented with PTSD symptoms and received individual sessions that focused on psychoeducation, cognitive restructuring, behavioural experiment, and stress management. At the end of the 6-month treatments, both participants reported significant decrease of symptom severity and increase of daily functioning.

In a controlled study, Layne et al. (2001) evaluated the efficacy of a 20-session school- and group-based trauma/grief-focused intervention for 55 postwar Bosnian adolescents (aged 15 to 19 years) with clinical scores of PTSD, depression, and grief. The intervention included psychoeducation, cognitive restructuring, therapeutic exposure, relaxation skills, and problem-solving skills, and was run by school counsellors within the school setting. Layne et al. reported significant reductions of PTSD (partial $\eta^2 = .52$), depression (partial $\eta^2 = .39$), and grief (partial $\eta^2 = .40$) symptoms from pretest (conducted in fall 1999) to posttest (conducted in May or June 2000). Participation satisfaction was found to associate positively with psychosocial adaptation but not symptom change scores. To improve the design of this study, Layne et al. (2008) replicated this study in a RCT and compared the treatment program with a psychoeducational and skill-based program. Children in both conditions improved significantly in PTSD and depression symptoms from pretest to 4-month follow-up, with a large effect size for PTSD symptoms in the treatment condition at posttest compared to a medium effect size in the comparison condition. The effect sizes for depression were small in both conditions.

A more recent RCT was conducted with younger children (aged 11 to 14 years) who survived 10 years of civil war in Nepal (Jordans et al., 2010). It involved an effort to implement the Classroom-Based Intervention (Macy, Macy, Gross, & Brighton, 2003) previously trialled in Indonesia by Tol et al. (2008). The intervention was provided to children who reported general distress but did not necessarily experience PTSD. A total of 225 children were randomised by school into the intervention and waiting list control conditions. Small to moderate intervention effects (Cohen's d ranged from 0.01 to 0.58) were observed for the outcomes which included psychological symptoms and general health indicators. However, no significant intervention effect was observed on any outcomes after

adjusting for nesting effects. Consistent with Tol et al. (2008) the intervention effect was moderated by gender and age, with a significant increase of prosocial behaviour for girls, significant reduction of aggression and generic psychological difficulties for boys, and significant increase of a sense of hope for older children in the intervention condition. No long-term follow-up was reported in the study.

Another CBT-based group intervention that was trialled with war-affected persons was the EMPOWER programme (Sonderegger, 2006). The programme consists of thirteen 2-hour sessions and was developed to help war-affected persons overcome their traumatic experiences through teaching emotional resiliency and reconciliation. A unique feature of this programme was that it was developed in conjunction with the locals. The programme was trialled in Uganda with 202 internally displaced persons aged 15 to 56 years (mean = 30.69 years; Sonderegger, Rombouts, Ocen, & McKeever, 2011). Participants were assigned into the intervention or waiting list control condition according to the refugee camp they resided in. Assessments were conducted at pretest, posttest, and 3-month follow-up using locally developed measures. Small to large intervention effects were found for anxiety and depression symptoms, and prosocial behaviour. The impact of the intervention on PTSD symptoms was not examined. Given that the sample consisted mainly of older adolescents and adults, generalisation of the results to young children should be exercised with caution. The results nevertheless show that group CBT programmes could be used to improve the emotional and behavioural outcomes of displaced persons in post-conflict situations with ongoing threats.

In a relatively well-designed RCT, Barron et al. (2012) evaluated the efficacy of the TRT for war-affected children (aged 11 to 14 years) living in a Palestinian region with ongoing violence. The intervention was delivered in Arabic over five sessions of 1.5 hours each. Participants were randomised by class into the intervention and waiting list control conditions. Close to 60% of the participants reported a clinical level of PTSD at screening. Pretest assessment was conducted two to four weeks prior to program delivery and posttest assessment was conducted two weeks after program completion. Participants in the intervention condition reported greater improvements in symptoms of PTSD (Cohen's $d = 0.76$), depression (Cohen's $d = 1.24$), grief (Cohen's $d = 0.96$), impact on school performance (Cohen's $d = 0.35$), and mental health difficulties (Cohen's $d = 0.90$) compared

participants in the control condition. They reported that girls have significantly higher grief scores than boys but it was unclear whether the effects of gender were included as a moderator in the analyses. Nevertheless, a unique feature of this study is the examination of participants' subjective experience in which the programme was described positively by the participants. Another contribution of this study is the systematic measurement of programme fidelity by the facilitators and independent observers. However, a long-term follow-up may be warranted to examine the long-term effects of this programme.

Barron and colleagues' (2012) study was replicated in a larger RCT by Quota, Palosaari, Diab, and Punamäki (2012) with 482 Palestinian children (aged 10 to 13 years) in Gaza. In contrary to Barron et al., Quota et al. found significant gender and risk effects on the outcomes. Specifically, the intervention effect was observed only in girls with low peritrauma. For boys, peritrauma did not affect the outcomes and there was a significantly lower proportion of nonclinical cases at posttest in the intervention condition than the control condition. However, boys in both conditions did not differ significantly in their PTSD symptoms at posttest. A 6-month follow-up was conducted but no significant results were found. The intervention effects reported in this study appear modest compared to the findings of Barron et al. However, both studies have employed different statistical methods and participants in both studies were living in different environment (ongoing violence vs. peace) which may have affected the outcomes.

The studies reviewed so far were conducted in low-income countries. Group-based CBT intervention for war-affected children has also been tested with children in high-income countries. P. M. Barrett, Moore, and Sonderegger (2000) reported positive results from the FRIENDS programme, a CBT anxiety treatment or prevention programme, in reducing internalising symptoms in refugee children resettled in Australia. The intervention comprised a 10-week group-based intervention for resilience and skill building conducted by a psychologist and a bilingual worker in both English and the native language of the participants. High treatment adherence was reported. The sample consisted of 20 female former-Yugoslavian children (aged 14 to 19 years) but treatment and waiting list control conditions were not conducted concurrently. Results showed that participants in the intervention condition reported significant reductions in anxiety symptoms from

pretest to posttest and interpreted more situations as being nonthreatening at posttest than they did at pretest. Length of time in Australia and previous English study did not affect the outcomes. Although the findings are limited by small sample size, and the absence of randomisation and a control condition, high treatment integrity was reported. Furthermore, a participant satisfaction interview was conducted with the students which confirmed the appropriateness of the programme for these students. The implication of this CBT programme on PTSD symptoms was unclear given that they were not assessed in the study.

A more recent evaluation of CBT school-based intervention for refugee children with PTSD resettled in high-income countries was conducted by Ehntholt et al. (2005) in the United Kingdom. A control group design was employed with 15 children in the intervention condition and 11 children in the waiting list control condition. Participants (aged 11 to 15 years) were recruited from two schools and were referred by their teachers based on their previous disclosure of trauma exposure and current distress displayed in school. Group allocation was not random. Baseline screening indicated that the majority of participants had experienced multiple war-related trauma and 90% of the children reported PTSD symptoms in the clinical range. The average length of time in the United Kingdom was 2 years. The TRT was used and was delivered in classroom by a psychologist. A large intervention effect was observed with children in the intervention condition reporting a significant reduction of symptoms of PTSD but not children in the control condition. Small but non-significant interventions effects for anxiety and depression scores were observed. In addition, a small but significant intervention effect for teacher-rated total difficulties and emotional problems was reported. Unfortunately, these improvements were not maintained at 2-month follow-up, probably due to the small sample size at follow-up ($n = 8$). The findings were also limited by the small sample size, large attrition rate, short follow-up, and absence of random allocation. Treatment integrity was not reported. Given that students in each school were split into intervention and control conditions, the possibility of contamination of the intervention effect could not be ruled out.

The overall efficacy of school-based interventions for traumatised children was summarised in Rolfsnes and Idsoe's (2011) meta-analysis. Rolfsnes and Idsoe identified 19 studies which evaluated the efficacy of school-based interventions

designed to reduce symptoms of PTSD in children and estimated a medium weighted effect size (Cohen's $d = 0.68$, $SD = 0.41$). Of the eight studies conducted with war-affected children, the majorities (7 out of 8) applied CBT-based interventions and reported a large effect size for PTSD symptoms. On the contrary, depression symptoms were evaluated in only some refugee studies and the effect sizes across studies were less consistent, with only one study reporting a large effect size.

3.4.4 Summary

A review of CBT intervention studies published in the literature has provided an emerging picture to the positive effects of CBT-based interventions for improving the emotional and behavioural outcomes of children affected by various types of trauma. These studies were conducted both with children who met the clinical diagnosis of PTSD and children who did not meet the full diagnosis. PTSD change scores are often the primary outcome in these studies although some researchers like Smith et al. (2007) and Tol et al. (2010) have also examined the mediators and moderators that influenced the treatment outcomes. Positive results of RCT studies conducted in immediate post-conflict settings (e.g., Layne et al., 2008) and countries of resettlement (e.g., Ehntholt et al., 2005) demonstrate the potential benefits of CBT in improving the emotional and behavioural outcomes of war-affected children. However, like evaluation studies conducted with mainstream children, studies with war-affected children are plagued by numerous methodological shortcomings. These included small sample size, absence of control condition, absence of randomisation, absence of long follow-up, and absence of adequate assessment procedure.

A review of the literature discussed above suggests the efficacy of group- and school-based CBT interventions in reducing PTSD and related symptoms in war-affected children. In general, group-based interventions are considered to be more cost- and time-effective than individual interventions (Ehntholt et al., 2005), and therefore are more feasible when the demand for service is high (Yule, 2001). Furthermore, school is an ideal environment for intervention because of the stability of the environment and students' familiarity with the setting (Oehlberg, 2011). Running interventions in schools could also provide access to students who otherwise are unlikely to seek an external service provider (de Anstiss & Ziaian, 2010; Garrison, Roy, & Azar, 1999). For example, results from five focus groups

conducted by de Anstiss and Ziaian with 85 refugee adolescents resettled in Australia showed that most of the adolescents would not seek professional advice and lacked prerequisite knowledge to access mental health service. Delivering interventions in schools further incorporates the ecology of children into an intervention framework, allowing issues to be addressed within the context (Betancourt, 2005). At a pragmatic level, having a number of similarly aged students makes group intervention feasible in schools (Jaycox, Stein, & Amaya-Jackson, 2009). Considering these advantages over traditional individual service delivery, it is argued in this thesis that school-based CBT intervention is an appropriate alternative to individual treatment for war-affected children.

3.5 Challenges of Delivering Interventions for War-affected Children

War-affected children constitute a unique population clinically and culturally. Regardless of treatment modality, there are important elements that need to be taken into consideration when conducting research with, including providing interventions for, children affected by war and disaster (Australian Centre for Posttraumatic Mental Health, 2007; Masten & Narayan, 2012). These elements, although not exhaustive, include intervention focus, developmental stages, ecology or environmental factors, and cultural relevance, and will be briefly discussed now.

Intervention focus. The context in which children are embedded would likely determine what kind of intervention is needed. As mentioned, the division between psychosocial intervention and trauma-focused intervention represents the unresolved disagreements among researchers about the pathways by which war impacts mental health and what kind of intervention is more helpful in recovery (Miller & Rasmussen, 2010b). While this debate continues, it seems clear from the literature that children are likely to benefit from both efforts to restore pre-war settings and efforts to cope with individual psychological symptoms. This is because while exposure to war has profound impacts on those who experienced it, war could also generate ongoing stressors through changes in family functioning and society structure, diminished economy activities, and poverty (Australian Centre for Posttraumatic Mental Health, 2007; Miller & Rasmussen, 2010b). The negative impacts of daily stressors on mental health well-being have been observed among

war-affected children living in Sri Lanka (Fernando et al., 2010), ex-child soldiers who attempted to return to their community (Betancourt et al., 2010), and refugees resettled in developed countries (Ellis et al., 2008; Heptinstall et al., 2004; Schweitzer, Melville, Steel, & Lacherez, 2006). As possible way to reconcile these competing needs may be through a staged intervention approach in which psychological interventions are provided after the basic needs of the children have been met (Ehnholt et al., 2005; Fernando, 2004).

Developmental stages. Prior research has suggested that children of differing ages may express traumatic reactions differently (Scheeringa, Weems, et al., 2011). Similarly, children in different developmental stages will benefit somewhat differently from a particular intervention. For example, Salmon and Bryant (2002) and Meiser-Stedman (2002) have called for careful application of CBT procedure with children, because children are different from adults in their cognitive and emotional capabilities. Salmon and Bryant expressed concerns about using prolonged exposure with children because the ability to encode an experience and regulate emotions depends on the developmental phase children are in. On the contrary, in a review of the nature of trauma memory and cognitive processes in the maintenance of PTSD in children, Meiser-Stedman concluded that the cognitive theory of PTSD is useful in the understanding of childhood PTSD as long as developmental factors are considered. Given that most of the interventions for children with PTSD were adapted from interventions for adults, careful age-related modifications may be necessary when using those interventions. Employing interventions developed for children may even be more appropriate. For example, the TRT is an intervention that was designed specifically for children exposed to war or disaster.

Ecology. Parents or family plays an important role in the day-to-day life of children and hence parent involvement is recommended for the treatment of children with PTSD (National Institute of Clinical Excellence, 2005; Stallard, 2006). However, researchers have raised concern about the difficulty of involving parents in therapy. Kinzie, Cheng, Tsai, and Riley (2006) presented results from a screening of refugee children referred to a mental health clinic and described the challenges of working with refugee families. Anecdotal evidence suggested that parents from

refugee families were reluctant to access mental health services for their children. It was interesting that these parents were already attending a mental health clinic but still struggled to refer their children to the clinic. In addition, Kinzie et al. reflected that Western interventions like CBT may not be readily accepted by refugees due to their own understanding of mental health and the difficulty of explaining the concepts of CBT to parents. However, they contended that CBT will work better for refugee adolescents who do not rely on their parents to attend therapy.

Accordingly, Schottelkorb et al. (2012) reported that refugee children in their study benefitted from both of the interventions trialled in their study despite poor parental participation. Several sessions of information and joint parent-child sessions were offered to parents of children in the study but only a small number of parents took up the offers. In fact, a recent meta-analysis showed that childhood PTSD treatment with parental involvement is as effective as, or less effective than, child-only treatment (Silverman et al., 2008). Therefore, while one may argue that including a parent component may improve therapy outcomes considering the risk and protective role of parents in refugee children's mental health (McMichael, Gifford, & Correa-Velez, 2011), current evidence suggests that child-only intervention can produce important changes.

Cultural relevance. It is a consensus among researchers and clinicians that culturally sensitive interventions should be employed when working with clients with culturally and linguistically diverse backgrounds (Australian Centre for Posttraumatic Mental Health, 2007; Wiese, 2010). However, Jordan and colleagues' (2009) review noted that while the majority (about 70%) of publications recommended cultural adaptation, very few researchers have given full details about the actual adaptations undertaken. A study that provided detailed information about the adaptation undertaken was published by Hinton et al. (2005). Hinton et al. described asking their patients (Cambodian refugees) to visualise lotus blossom in the relaxation activity because lotus is a common object in their culture. In addition, practitioners working with traumatised clients are also reminded to be sensitive to cues that could re-traumatise the clients. In their work with Cambodian refugees who had been exposed to years of "indoctrination sessions" during the Pol Pot regime where abuse or executions occurred, Otto and Hinton (2006) reported explicitly

discussing with their patients on how group therapy reminds them of indoctrination sessions and intentionally slowing down the therapy pace so that patients have time to ask questions. Furthermore, depending on the type and severity of trauma, traumatised refugees may have difficulty trusting others, not to mention authorities (K. E. Murray et al., 2008). Therefore, building a therapeutic relationship with refugees may take more time and therapists should not force their clients into disclosing personal traumatic material before trust is established.

3.6 Chapter Summary

This chapter involved a review of a wide range of interventions used to help traumatised children. The review focused on non-specific interventions and specific interventions conducted in both low- or middle-income countries and high-income countries. The focus of non-specific psychosocial interventions is on reducing ongoing stressors and restoring pre-conflict social and relational network. The rationale for this approach is that mental health should be improved through improved living conditions. On the other side of the pendulum is specific intervention that targets a specific psychological outlook. Practitioners who advocate for trauma-focused intervention contend that mental health can only be improved through the reduction of psychological symptoms. These approaches included psychodynamic therapy, EMDR, anxiety management training, creative arts therapies, NET, psychopharmacological treatment, family-centred therapy, hypnotherapy, traditional practices, and CBT. Positive results were reported for most of these interventions but the majority of the evaluation studies were case studies and quasi-experimental designs. Well-controlled RCTs are rare. Jordans and colleagues' (2009) systematic review of studies conducted with war-affected children in low-income countries identified only two RCTs, with many of the studies suffering from small samples, absence of random allocation, absence of long-term follow-up, absence of important informants, absence of treatment integrity procedure, and lack of an adequate control group. Similarly, Peltonen and Punamäki's (2010) meta-analysis that included studies conducted in low- and high-income countries identified only four RCTs. A further flaw in some studies is the failure to account for clustering effects which are likely to lead to the risk of Type I error (Roberts & Roberts, 2005).

Among the trauma-focused interventions, CBT is recommended for the treatment of PTSD (Australian Centre for Posttraumatic Mental Health, 2007; National Institute of Clinical Excellence, 2005). CBT interventions for the treatment of PTSD assume that the symptoms are caused and perpetuated by unsuccessful processing of trauma memories, incorrect appraisal of trauma, and maladaptive behaviour and coping strategies (Brewin et al., 1996; Ellis et al., 2006; Foa et al., 1989). As a result, CBT treatment for trauma has typically included psychoeducation about symptoms of trauma, cognitive restructuring, relaxation, and exposure although the exact content of each CBT programme varies.

CBT for childhood PTSD is relatively well studied with methodologically rigorous trials (e.g., Smith et al., 2007). However, empirical studies involving war-affected children are lacking. For example, the TRT is a manualised CBT-based group intervention designed to reduce PTSD symptoms in children exposed to war or disaster. However, only three controlled trials have been published, one in the United Kingdom (Ehnholt et al., 2005) and two in Palestine (Barron et al., 2012; Quota et al., 2012). Another recent well-designed RCT of a group CBT intervention for war-affected children with PTSD was conducted by Layne et al. (2008) but it was conducted in post-conflict settings. Given that children experience different types of stresses at the different stages of their flight (Lustig et al., 2004), it is likely that children resettling in developed countries may need to have interventions modified to their needs (K. E. Murray et al., 2010). In summary, findings from the current literature show that well-designed psychological interventions can have a positive and significant impact on the emotional and behavioural well-being of traumatised children.

Chapter 4: Addressing the Gaps

Australia is a country committed to resolving refugee situations. York (2003) reported that Australia has received almost 800,000 refugees and humanitarian entrants since 1901 and is continuing to receive approximately 10,000 annually. Children and adolescents usually comprise a huge portion of total entrants, for example, in the past five years approximately half of the Australian humanitarian visas were granted to children under 18 years (Department of Immigration and Citizenship, 2012a). Although not all of them have been exposed to traumatic experiences and many are resilient, some may experience difficulties as discussed in Chapter 2. As per Henley and Robin's (2011) report, school is an ideal setting for service delivery because refugee children who resettle in Australia are usually placed in schools upon their arrival for specialist programmes. However, based on the literature reviewed in Chapter 3, there is limited empirical evidence for the efficacy of group CBT-based interventions for war-affected children resettled in developed countries.

As reviewed in Chapter 3, one of the primary shortcomings in the literature is the scarcity of well-design RCTs. According to the Criteria for Evaluating Treatment Guidelines (APA, 2002), treatment efficacy is the extent to which an intervention effect can be attributed to a given intervention as compared to no treatment or an alternative treatment. One of the most stringent methods to systematically evaluate an intervention is RCTs because they are able to rule out threats to internal validity. Random allocation is another crucial feature of RCTs. It reduces the problem of group non-equivalence between treatment condition and control condition so that direct comparison can be made. The evaluation of treatment efficacy is a pressing issue because numerous evaluation studies involving war-affected children have mushroomed over the decade but many lacked a comparison group or have relied on convenience samples for group formation.

Some researchers have also struggled to recruit large enough samples of participants and to retain them at follow-ups. Studies conducted in countries of resettlement have generally had smaller samples compared to studies conducted in

immediate post-war regions. Pragmatic issues such as family relocation and political instability are also common in follow-up studies. These difficulties have resulted in poor follow-ups and underpowered statistical results.

A majority of studies have involved participants recruited from schools and randomised by school into intervention or control condition. However, relatively few researchers have accounted for the effects of clustering into statistical analysis. When participants are nested within groups (i.e., schools), those in the same group are more likely to be exposed to the same environment compared to those from different groups, thus violating the assumption of independence of observations. The violation of this assumption leads to incorrect estimation of standard errors which inflates the risk of Type I error (Kreft & de Leeuw, 1998). Therefore, instead of using conventional analysis of variance which assumes independence of variance, more advanced statistical tools capable of accounting for multi-level data should be used. Multilevel mixed effects linear regression (MLM) is a statistical tool that is capable of performing such analysis (Tabachnick & Fidell, 2007). Researchers like Hollifield et al. (2002) and Kahn (2011) have strongly recommended MLM to be the standard method of analysing nested data.

Another prominent gap in the literature is that researchers have employed different outcome measures and focused on different informants, making comparisons across studies difficult. Clinician-administered interviews are generally used to diagnose children for inclusion into a treatment while self-reports are commonly used as an indicator of treatment effects. On the other hand, due to the pragmatic difficulties of conducting research with this population, some researchers have relied on parents as the only informant but it is widely recognised that parents may not necessarily be able to provide a good account of their children's psychological symptoms (Björn, Bodén, Sydsjö, & Gustafsoon, 2011; Goodman et al., 2000). Even when children are used as an informant, some researchers have focused purely on symptom reduction and failed to assess the impact of the intervention on functioning.

Apart from objective symptom reduction, the next logical question to ask is whether the intervention is acceptable to the clients. The term "social validity" was coined by Wolf (1978) to refer to the social importance, and client's acceptability and satisfaction of an intervention. King and Ollendick (2006) contended that an

ideal psychosocial intervention should be acceptable to the clients and manualised, and possess strong theoretical rationale, clear problem identification, realistic programme features, and strong research support. The issue of treatment acceptability is of utmost importance to clinicians delivering psychological interventions to clients with culturally and linguistically diverse backgrounds because, as Kleinman (1988) argued, these clients may have different explanatory models of their situations and may not perceive the intervention to be relevant or necessary. In accord, Weine (2011) raised the concern that many refugee families who are in need of mental health services do not seek help because of various pragmatic and cultural reasons, and called for careful consideration of new interventions or services that are acceptable to clients, feasible in terms of ethics, financial, and language aspects, time-focused, effective, adaptable to different consumer groups, and culturally-tailored. However, only some researchers have explored the social validity of their interventions.

Fazel, Doll, and Stein (2009) examined the social validity of a school-based mental health delivery model for school-aged refugees and asylum seekers experiencing a wide range of emotional and behaviours problems. Improvement in behaviours was rated by teachers using the Strengths and Difficulties Questionnaire while social validity was investigated in a sub-sample of students using a quantitative evaluation form asking what they like and dislike about the programme. Teacher's feedback was mixed but students rated the service as *helpful* and *very helpful*, with many indicating that they would recommend the service to their friends. One of the few studies that have explored social validity of a group-based PTSD intervention for war-exposed children was published by Layne et al. (2001). Participant satisfaction was measured using a 10-item questionnaire. However, consistent with Fazel and colleagues' study, participant satisfaction did not correlate significantly with changes in symptom scores. Similar findings have been replicated in mainstream literature (Roberts et al., 2010) and supported Wolf's (1979) suggestion to distinguish treatment efficacy from social validity.

In addition, treatment adherence is rarely reported in evaluation studies. Treatment integrity is the degree to which a treatment plan was adhered to and assessing treatment integrity should be seen as an important part of RCTs because incorrectly or loosely implemented intervention is likely to have a direct impact on

the treatment outcome (Kazdin, 2003). Pereplechikova, Treat, and Kazdin (2007) conducted a review of psychosocial evaluation studies published in six influential journals in the field of psychology and psychiatry and found only 4% of the studies adequately published treatment integrity procedures. A similar pattern is observed in the studies reviewed in Chapter 3.

Considering the gaps and the current state of research, the aims of this research were to investigate the efficacy of a group CBT-based intervention in reducing PTSD and related symptoms in war-affected children resettled in Australia, and to explore the social validity of the intervention. Smith and colleagues' (2000) TRT programme was chosen for this purpose because it is designed specifically for children exposed to war- or disaster-related trauma who developed PTSD symptoms subsequently. It is not designed to treat children with severe symptoms but to teach important coping skills in order to prevent the need for specialist treatment. Given that only very few children develop full blown PTSD, this intervention can be used as a prevention programme to help children who display some PTSD symptoms but do not meet the diagnostic criteria. Another advantage of the TRT is that it can be delivered in a group setting with up to 15 children of eight years and above, allowing a large number of children to be reached within the shortest time possible. In terms of practicality of the implementation, the manualised programme can be facilitated by any trained person, increasing its feasibility of being implemented in the community.

To achieve these aims, three studies were conducted. Study One comprised a pilot study to examine the appropriateness of the intervention and research protocol prior to the main RCT. Study Two involved testing the efficacy of the intervention using a cluster RCT with pretest, posttest, and 3-month follow-up. Study Three consisted of an examination of the social validity of the intervention using both quantitative and qualitative approaches. The Consolidated Standards of Reporting Trials (CONSORT) statement for cluster RCTs was used as the general guideline in reporting and methodological requirements (Campbell, Elbourne, & Altman, 2004).

In light of the importance of multiple informants in the literature (Goodman et al., 2000; Scheeringa, Wright, Hunt, & Zeanah, 2006), children, parents, and teachers were included in the evaluation of the intervention. The Children's Revised Impact of Event Scale (CRIES-13; Smith et al., 2003) and the Birleson Depression

Self-Rating Scale (DSRS; Birleson, 1981) were chosen to measure symptoms of PTSD and depression because they have been used extensively with war-affected children and have sound psychometric properties. These measures form part of the assessment battery recommended by the *Child and War Foundation*. In addition, internalising and externalising problems were measured using the Hopkins Symptom Checklist-37 for Adolescents (HSCL-37A; Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, 2007) to assess problems that were not covered by the CRIES-13 and DSRS. All of these measures can be obtained from the *Children and War Foundation* and the authors which made them a convenient choice. Another outcome measure was psychosocial functioning and this was measured using the parent and teacher version of the Strengths and Difficulties Questionnaires (SDQ; Goodman et al., 2000). Social validity of the intervention was explored qualitatively and quantitatively using a battery of questionnaires used by Roberts et al. (2010) and Nesa and Rooney (2004).

Chapter 5: Study One

The Feasibility of a School-based Group Intervention for War-exposed Young Migrants: A Pilot Study

Pilot studies, also known as feasibility studies, are often conducted as small-scale studies to refine measures, procedures or design before full studies are undertaken (Kumar, 2011). Although the proposed intervention, Teaching Recovery Techniques (TRT; Smith et al., 2000), has been found to have a positive impact on war-affected children in three earlier studies (Barron et al., 2012; Ehntholt et al., 2005; Quota et al., 2012), it has not been implemented among war-affected children resettled in Australia. Therefore, this pilot study was deemed necessary to ensure appropriateness of the intervention and the research procedure before undertaking the RCT (Study Two). Considering the positive findings from earlier studies, it was hypothesised that participants would express acceptance of and satisfaction with the intervention.

5.1 Method

5.1.1 Design

The design of this study was a one- group pretest-posttest design. Although this pre-experimental design is limited by threats to internal validity, it is considered appropriate for the purpose of this study, which was to explore the feasibility of Study Two in a cost- and time-effective way.

5.1.2 Participants

The study was conducted between March and June in 2010 with four students from a secondary school in Perth and one of their primary carers. This school was selected from the pool of schools recruited for Study Two because it was the first school ready to begin the intervention. Participant inclusion criteria were (a) exposure to war-related trauma before migrating to Australia, (b) living in Australia for less than 7 years, and (c) a mild to moderate level PTSD symptoms indicated by a

score between 4 and 38 on the UCLA PTSD Reaction Index for DSM-IV (UCLA PTSD Index; Rodriguez et al., 1999). Exclusion criteria included (a) a clinical level of PTSD symptoms indicated by a score of 38 or above on the UCLA PTSD Index, (b) limited English proficiency as determined by participants' teachers and assessors, (c) being a non-accompanied humanitarian entrant, and (d) currently receiving psychological treatment for PTSD. A total of six students were referred but two were unable to participate due to a timetabling issue and meeting exclusion criteria (see Figure 1). Two participants reported elevated symptoms which may warrant a clinical diagnosis. However, they were not excluded given the small sample size and their discretion to remain in the study. Furthermore, these participants were already on the waiting list for psychological assistance.

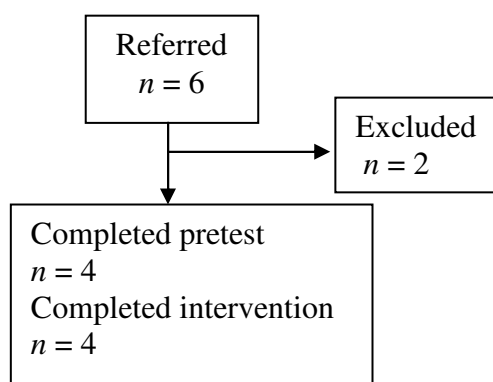


Figure 1. Study One participant flow.

The sample comprised two male and two female students aged between 13 and 16 years ($M = 14.75$; $SD = 1.26$; Table 1). The duration of living in Australia ranged from 1 to 2 years ($M = 1.63$; $SD = 0.48$) and all participants were rated by assessors to have a *fair* or *good* level of English fluency, indicating reasonable English ability to converse and comprehend conversation. The majority (75%) of students were born in an African region and three participants had lived in a refugee camp. The average number of traumatic events endorsed by participants was 5.25 ($SD = 3.30$) and the mean UCLA PTSD Index score was 40.44 ($SD = 18.84$), slightly higher than the cutoff score of 38 proposed by the literature. The majority of primary carers who completed the interviews were mothers. Two carers were rated by assessors to have a *fair* level of English fluency indicating a reasonable level of English fluency to engage in conversation without an interpreter; whereas two carers

were rated to have a *poor* fluency suggesting that interpreters were needed. The majority of carers were unemployed with a mean household size of 8.50 people ($SD = 2.08$). The mean socioeconomic disadvantage decile of 6.25 ($SD = 2.50$) derived from residential postcodes of the families suggested that the families were in moderate disadvantage relative to national households.

5.1.3 Measures

5.1.3.1 Demographic form.

Demographic information form (Appendix A), which included information about the child's age, birth country, visa type, ethnic identity, previous and current intervention for behavioural or psychological difficulties, and trauma history, was completed by primary carers with assistance from assessors. Information about primary carers, such as birth country, duration in Australia, occupation, religion, and household size, was also collected.

5.1.3.2 Screening measure.

UCLA PTSD Reaction Index for DSM-IV

The UCLA PTSD Reaction Index for DSM-IV (UCLA PTSD Index; Rodriguez et al., 1999; Appendix B) is a revised version of a frequently used child PTSD instrument, Posttraumatic Stress Reaction Index (Pynoos et al., 1987). The adolescent version designed for children aged 13 years and older was used. The two components of the index include (a) Part I and II which assess trauma exposure and subjective perception of the exposure, and (b) Part III which measures the frequency of PTSD symptoms in the last month. Part I and II contain 27 “yes” or “no” questions about traumatic exposure, with Items 4, 7, 8, 9, and 11 assessing war-related trauma. Part III comprised 22 items mapped directly into the 17 *DSM-IV* PTSD symptoms. The items are rated on a 5-point Likert scale ranging from 0 (*None of the time*), 1 (*Little*), 2 (*Sometimes*), 3 (*Often*) to 4 (*Most of the time*). The UCLA PTSD Index can be completed in 45 minutes.

The UCLA PTSD Index produces two scores (a) an overall severity score, ranging from 0 to 68, by summing the 17 core items; and (b) subscores for intrusion, avoidance, and arousal symptoms by summing items belonging to each subscale. Of the 22 symptomatology items in Part III, only 17 items were included in the total

score because two items were not *DSM-IV* criteria and three items were repeated symptoms. Although there is limited information about the specific cutoff score for a particular trauma type or population, a cutoff score of 38 has been proposed in the literature (Steinberg et al., 2004). For the purpose of this study, the overall severity score was used because the UCLA PTSD Index was intended to be a quick screening measure for inclusion rather than a diagnostic tool.

The Cronbach's alpha of this measure has been found to be in the range of .90 (Ellis et al., 2006; Layne et al., 2001; Steinberg et al., 2004). It also has good convergent validity with the PTSD Module of the Schedule for Affective Disorders and Schizophrenia for School-Age Children, $r = .70$ (Rodriguez et al., 2001, December 6-9). It was also found to correlate significantly with self-report measures of PTSD-related symptoms such as the Birleson Depression Self-rating Scale, $r = .72$ (Ellis et al., 2006). It has been used with children and adolescents after earthquakes (Giannopoulou, Smith, et al., 2006); children displaced in Southern Darfur (Morgos, Worden, & Gupta, 2007); Somali adolescent refugees (Ellis et al., 2008); child soldiers in Uganda and Congo (Bayer, Klasen, & Adam, 2007); and children exposed to the Gulf crisis (Hadi & Llabre, 1998; Nader & Fairbanks, 1994).

Table 1

Baseline Characteristics for Participants in Study One

Characteristic	<i>n</i>	%	<i>M</i>	<i>SD</i>	Range
Students					
Sex					
Male	2	50			
Female	2	50			
Age			14.75	1.26	13-16
Years in Australia			1.63	0.48	1- 2
English fluency					
Good	3	75			
Fair	1	25			
Exposed to war					
Yes	2	50			
No	2	50			
Traumatic events			5.25	3.30	1- 9
UCLA PTSD Index			40.44	18.84	21-60
Lived in a refugee camp					
Yes	3	75			
No	1	25			
Years in camps			11.67	2.52	9-14
Birth region					
Africa	3	75			
Middle East	1	25			
Primary carers					
Relationship					
Mother	2	50			
Father	1	25			
Others	1	25			
English fluency					
Fair	2	50			
Poor	2	50			
Occupation					
Unemployed	4	100			
Religion					
Christian	2	50			
Muslim	2	50			
Household size			8.50	2.08	6-11
SES decile			6.25	2.50	5-10

Note. UCLA PTSD Index = UCLA PTSD Reaction Index for DSM-IV. SES decile = Socioeconomic status by Index of Relative Socio-economic Disadvantage 2006, with lowest decile indicating greatest disadvantage (Australian Bureau of Statistics, 2006). Africa = Sierra Leone, Sudan, and Tanzania; Middle East = Iran.

5.1.3.3 Outcome measures.

Children's Revised Impact of Event Scale

The Children's Revised Impact of Event Scale (CRIES-13; Smith et al., 2003; Appendix C) is a 13-item PTSD scale measuring symptoms of intrusion (4 items), avoidance (4 items), and arousal (5 items). The items are rated on a 4-point Likert scale ranging from 0 (*none*), 1 (*rarely*), 3 (*sometimes*) to 5 (*a lot*), producing a total score ranging from 0 to 65. A cutoff score of 30 on the total items has been suggested (Perrin et al., 2005). For the purpose of this study, however, the 13 items were summed to produce a total PTSD score.

The CRIES-13 has good internal consistency, with a Cronbach's alpha of .80 for the total scale (Smith et al., 2003). It has been found to correlate strongly with other measures of post-traumatic stress, including the PTSD Checklist, $r = .84$ (Creamer et al., 2003), and the UCLA PTSD Index, $r = .79$ (Giannopoulou, Smith, et al., 2006). The CRIES-8, which contains the same items as the CRIES-13's intrusion and avoidance subscales, is highly correlated with the original IES, $r = .93$ (Perrin et al., 2005). Although the test-retest reliability of the CRIES-13 is yet to be published, it is believed to be reasonably good given the high test-retest reliability of the IES reported in the literature because Horowitz (1979) reported a one-week test-reliability of .87 for the RIES total score. The CRIES-13 has been used with war-affected children, including Cambodian refugee adolescents (Sack, Seeley, Him, & Clarke, 1998), Bosnian refugee children and adolescents (Smith et al., 2002; Smith et al., 2001), Iraqi children exposed to the Gulf crisis (Dyregrov et al., 2002), and refugee children resettled in London (Heptinstall et al., 2004).

Birleson Depression Self-Rating Scale

The Birleson Depression Self-Rating Scale (DSRS; Birleson, 1981; Appendix D) is an 18-item scale measuring depression symptoms in children and adolescents aged between 8 and 14 years (Birleson, 1981). The measure comprises both emotional (e.g., sadness and loneliness) and behavioural components of depressive symptomatology (e.g., sleep difficulty and lack of activity). Each item is scored on a 3-point scale ranging from 0 (*never*), 1 (*sometimes*) to 2 (*mostly*), with depressive response scoring 2 and non-depressive responses scoring 0. Ten positively worded items (Items 1, 2, 4, 7, 8, 9, 11, 12, 13, and 16) were reversed coded so that higher

score represents more disturbances. The total score is derived by summing all items to produce a total score ranging from 0 to 36.

It has good internal consistency, with split-half reliability coefficient of .86 and test-retest reliability of .80 (Birleson, 1981). The duration of test-retest was not specified in Birleson's study but similar result ($r = .78$) was reported by Panter-Brick, Goodman, Tol, and Eggerman (2011) who conducted a seven days test-retest in an Afghanistan sample. According to the normative data obtained from a sample of British children, the DSRS has reasonably high specificity (ranging from 77% to 88%) and sensitivity (ranging from 64% to 67%; Birleson, Hudson, Buchanan, & Wolff, 1987). It was found to correlate significantly with another depression measure, the Child Depression Index, with correlations ranging from .67 to .76 (Charman, 1994). It has been used to assess the well-being of refugee children (Papageorgiou et al., 2000); and to evaluate treatment efficacy among Bosnian children exposed to war (Layne et al., 2001), Greek children exposed to an earthquake (Giannopoulou, Strouthos, et al., 2006), and Indonesian children exposed to violence (Tol et al., 2008).

Hopkins Symptom Checklist-37 for Adolescents

The Hopkins Symptom Checklist-37 for Adolescents (HSCL-37A; Bean, Derluyn, et al., 2007; Appendix E) was employed to measure internalising and externalising problems because it has been extensively used with non-Western or refugee children. It was adapted from the Hopkins Symptoms Checklist-25 (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) and contains 37 items assessing symptoms of anxiety, depression, and externalising behaviours. Only 36 items were used in the study because Item 13, which asks children if their sexual desire decreased over the last month, was omitted considering that it might be developmentally inappropriate for younger participants in our studies. Each item is answered on a 4-point Likert scale ranging from 1 (*never*), 2 (*sometimes*), 3 (*often*), to 4 (*always*), producing a total score ranging from 36 to 144 (allowing for the omission of Item 13). Three subscale scores can also be produced (a) total score for the anxiety subtest (Items 1, 2, 5, 9, 12, 15, 18, 21, 25, and 28) which ranges from 10 to 40; (b) depression subtest (Items 6, 10, 14, 16, 19, 22, 23, 26, 29, 30, 31, 32, 34,

and 35) which ranges from 14 to 60; and (c) externalising subtest (Items 3, 4, 7, 8, 11, 13, 17, 20, 24, 27, 33, and 36) which ranges from 12 to 48.

The HSCL-37A has a Cronbach's alpha of .90 for the total score, .92 for the internalising subtest (depression and anxiety subscales), and .75 for the externalising subtest (Bean, Derluyn, et al., 2007). The authors reported a 12-month test-retest reliability of .63 for the total score, .64 for the internalising subtest, and .53 for the externalising subtest and it is probable that the long interval may have comprised the results. In addition, the HSCL-37A has good construct validity, with the total and internalising scores showing significant and positive correlations with the Reactions to Traumatic Stress Checklist (correlations ranged from .66 to .79), the Stressful Life Events questionnaire (correlations ranged from .30 to .41), and the Strengths and Difficulties Questionnaire (correlations ranged from .64 to .70). The correlations between externalising subtest and these measures were weaker but still significant, with correlations ranging from .23 to .43. The HSCL-37A is available in 15 languages and has been used with adolescents from different cultural groups, including Angola, Morocco, Iran and Bosnia (Bean, Derluyn, et al., 2007). The authors reported satisfactory Cronbach's alphas for the total score (ranging from .84 to .95) and subscale scores (.86 to .95 for the internalising subtest, and .60 to .75 for the externalising subtest) across the translations.

Student Social Validity Evaluation

Social validity of the intervention was examined using the Student Evaluation Form (Appendix F) adapted from Gent, DiCiano, Rooney, and Kane (2012) and Roberts et al. (2010). The original questionnaire consists of 15 items on programme satisfaction, 10 items on usefulness of the skills taught, and five open-ended items on general feedback. The wording of the original questionnaire was modified in order to cater to the specific components of the current programme and the final questionnaire (Appendix G) includes 14 items on programme satisfaction, 6 items on usefulness of the skills, and 5 open-ended items on general feedback. The open-ended items examined the activities students used the most and did not enjoy ("What were the activities you enjoyed the most?", "What were the activities you did not enjoy?"), the activities they practised or used at home ("What were the skills you

used the most?”), and areas of improvement (“How can we improve the programme?”, “What other areas/topics should we include in the programme?”).

Parent-rated Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ; Goodman et al., 2000; Appendix H) is a brief screening measure that provides information about children’s and adolescents’ emotional, behavioural, and relationship functioning. The parent-rated SDQ (SDQP) with impact component was employed. It comprises 25 items that fall under five subscales: hyperactivity (Items 2, 10, 15, 21 and 25), emotional symptoms (Items 3, 8, 13, 16 and 24), conduct problems (Items 5, 7, 12, 18 and 22), peer relationship difficulties (Items 6, 11, 14, 19 and 23), and prosocial behaviours (Items 1, 4, 9, 17 and 20). Each item is rated on a 3-point scale, ranging from 0 (*not true*), 1 (*somewhat true*) to 2 (*very true*). Items 7, 11, 14, 21 and 25 were reversed scored. The subscale scores are obtained by summing the respective subscale items; while the total score is derived by summing all, except the prosocial subscale. For the purpose of this study, the total and prosocial scores were used.

The SDQP has shown good internal consistency, with Cronbach’s alpha coefficients of .82 and .85 for the total difficulties and prosocial scores respectively (Goodman, 2001). The Cronbach’s alpha of the subscale scores were found to range from .57 to .77. The test-retest reliabilities over four to six months were found to range from .57 to .72. The SDQ is also found to correlate highly with the Child Behavior Checklist, $r = .59$ to $.87$, on the five subscales (Goodman & Scott, 1999). In terms of cultural relevance, it has been used with refugee children originating from various regions/countries, including Africa and Asia (Derluyn & Broekaert, 2007); Turkey, Kosovo, and Somalia (Leavey et al., 2004); Balkans and Kashmir (Fazel & Stein, 2003); and Iraq (O’Shea, Hodes, Down, & Bramley, 2000).

Parent Social Validity Evaluation

A semi-structured interview with seven questions was used to interview parents on their experience with and perception of the programme (Appendix I). The questions were developed by the author of this study and were therefore specifically tailored to the content of the intervention. The interview questions were designed to assess parental observation of children’s behaviour over the course of the programme

(“Did your child tell you what he/she learns in this programme?”, “What changes did you notice in your child since he/ she started coming to the programme?”), parental impression of the programme (“What do you like about this programme?”, “What don’t you like about this programme?”, “How has this programme helped your child?”), cultural relevance of the programme (“Is this programme compatible with your culture/beliefs?”), and suggestion for improvement (“How can we make this programme better?”).

Parents were also given the opportunity to rate the utility of specific intervention components on a forced choice “yes” or “no” rating scale. Examples of the questions are “Do you think teaching children to relax their body and to breathe slowly when they’re scared is useful?” and “Do you think teaching children to manage their nightmares is useful?” The parents were also asked if they would recommend this programme to other children.

5.1.4 Intervention Protocol

The TRT (Smith et al., 2000) is a group-based CBT programme developed for survivors of war or conflicts aged eight years or older. The intervention manual and workbook can be found at the *Children and War Foundation* website. The TRT is a psycho-social-education intervention, aimed at educating children about their symptoms and teaching adaptive coping strategies which include creating self-coping statements, relaxation, and exposure strategies. It was not designed for treatment purposes but rather to ‘prevent the need for later treatment: children who have learned and practised the techniques contained here will be less likely to need specialist treatment services in the future’ (p. 4). The main programme components include intrusion, arousal, and avoidance, and it was intended to be completed in five 2-hour sessions (Table 2). It also has a parallel parent component designed to complement the child component.

Although the intervention was designed to run in 2-hour blocks, previous studies have found it more feasible to conduct the intervention in 1-hour sessions. For example, Ehnholt and colleagues (2005) implemented the intervention as a school-based programme and ran the programme for six sessions, one hour per session. It is reasonable to conduct the intervention as an intensive programme in post-crisis situations in order to equip children with as much information as possible

because of the uncertainties surrounding them. In contrast, children who have resettled in a new country would have more certainty about the future but are time poor because of other commitments. From the perspective of school teachers, taking students out of class for one hour also seems less disruptive than taking them out for two hours. In order to promote the attractiveness of the programme to school authorities by reducing disruption to their schedules to a minimal level, the programme was run in eight blocks of 60 minutes.

In the 8-session schedule, the first session focused on getting participants to feel comfortable with each other, setting group rules, and teaching a relaxation technique. Sessions 2 to 3 focused on psychoeducation and strategies to manage intrusive imagery, auditory, and olfactory traumatic memories. Examples of the visual imagery techniques include the screen technique where children imagine a television screen so that changes to the image on the screen can be made and the hand technique in which children repeat the process but with the image projected on their palm. The subsequent sessions, Sessions 4 and 5, involved discussions on nightmares, arousal, and anxiety management exercises, such as slow breathing and progressive muscle relaxation. The last component, Sessions 6 to 8, focused on avoidance and comprised strategies to overcome unhelpful avoidance.

It was the intention of this study to provide parallel parent sessions; however, consultation with the participating schools suggested that this may not be feasible due to language, childcare and transportation issues. As a result, a parent tip sheet was regarded as the best solution to this problem. A 2-page parent tip sheet (see Appendix J) was used to inform parents about what their children were learning in the programme. In order to engage the parents, the tip sheet was translated into the languages of main refugee groups in Perth, including Arabic, Dinka, Kirundi, Karen, and Burmese. A phone call was also made to parents to explain the intervention.

Table 2

Content of the Teaching Recovery Techniques (Smith et al., 2000)

Component	Session	Activity
Intrusion	1	Introduction and Rules
		Getting to know each other
	2	Establishing a safe place
		Imagery Techniques
		Auditory, olfactory, kinaesthetic techniques
		Dual attention tasks
		Dreamwork
		Distraction
		Bothering thoughts or worries
		Closing the group
		Home work
Arousal	3	Homework review
		Introducing arousal
		Muscle relaxation
		Breath control
		Guided imagery
		Coping self-statements
		How and when to use relaxation
		Sleep hygiene
		Activity scheduling
		Homework
		Homework review
Avoidance	4	Introducing graded exposure
		Grading traumatic reminders
		How to carry out exposure
		Practise a short imaginal exposure
		Good and bad avoidance
	5	Exposure to traumatic memories
		Looking to the future
		Homework
		Closing group

5.1.4.1 Review panel.

A panel of reviewers was formed to ensure cultural appropriateness and linguistic accuracy of the measures and intervention prior to the implementation. The panel consisted of the author, a social worker who has worked with refugees in Perth, a clinical psychologist specialising in transcultural mental health, and two clinical psychologists experienced in child mental health promotion. Items that were deemed culturally inappropriate were reworded or removed from the measures. However, efforts were made to protect the integrity of the questionnaires. Therefore, only minor changes were made. For example, out of the 117 items on the student self-

report questionnaire, only one item, the HSCL-37A Item 13 “loss of sexual interest,” was removed. A small number of items were reworded to avoid confusion. For example, UCLA PTSD Index Item 4 “I feel grouchy” was reworded to “I feel grumpy,” Item 21 “I feel pessimistic or negative about my future” was reworded to “I feel bad about my future,” HSCL-37A Item 27 “feeling blue” was reworded to “feeling sad,”; CRIES-13 Item 8 “pop into your mind” was reworded to “come into your mind.” The panel suggested that the programme was appropriate for war-exposed young migrants and only minor improvements were suggested to maximise the potential of this programme.

5.1.5 Procedure

Ethical approval was received from the Curtin University Human Research Ethics Committee, the Western Australia Department of Education, and Catholic Education Office in 2008. Considering the privacy of the families, first contacts were made by the school psychologist who had access to their contact details. With consent to be contacted, families were contacted by the assessors to explain study purpose and rationale. Parents and students were given the Participant Information form (Appendix K) and the study was verbally explained to them. Written consent was obtained before screening.

The intervention was implemented by the author of this study and an onsite school psychologist during a school term. Pretest was administered a week prior to commencement of intervention but posttest was not completed due to school timetabling issues. Posttest was scheduled for the week following the last session but participants were involved in a school activity which forced us to reschedule the session. On the following week, all participants were sick and school was closed for three weeks after that. Therefore, posttest was not administered. The 5-item open ended questions in the student social validity evaluation were administered when school re-opened, while the SDQP and the parent social validity evaluation were completed via the telephone on the same week.

5.1.6 Statistical Analysis

Qualitative information collected from participants was subjected to content analysis while quantitative information was analysed using the Statistical Package for the Social Sciences (SPSS) Descriptive Statistics. Content analysis is an

analytical method that involves “coding (of) participants’ open-ended data into closed categories, which summarize and systematize the data” (Wilkinson, 2008, p. 198). An advantage of content analysis is that the product of analysis can be presented as quantitative data for comparison purposes. A deductive approach to data analysis was employed because there was no prior theory about participants’ experience of this intervention and therefore deducing from what was said by participants is appropriate to understanding participant perception of the intervention. The unit of analysis was operationalised as words or phrases that respond to the interview questions (Milward, 2007). Although there did not appear to be any prescriptive steps of doing content analysis, Berg’s (2007) procedure for standard content analysis was employed because of clarity and simplicity of the procedure. First, transcripts were read according to the order of the interview schedule and notes were made along the margins. For example, responses (from all participants) to the first question were read and followed by second question and so forth. The notes were then turned into codes and codes were grouped to form categorical labels or themes. Nvivo software was used to aid data management. Participants were de-identified in the analysis and the quotations are coded by a number that was designated to each interviewee.

5.2 Results

The data for this study were obtained from four students who attended the intervention and their parents. The results will be presented in three sections a) student feedback which comprised the outcomes from the student social validity evaluation, b) parent feedback which comprised the outcomes from the parent social validity evaluation, and c) analysis of the SDQP.

5.2.1 Student Qualitative Feedback

Content analysis of the student responses yielded five themes which included overall satisfaction, safe environment, favourite activities, dislikes of the intervention, and suggestions for improvement. Overall, students commented favourably on the intervention and highlighted their appreciation of the opportunity to talk about their experience. They also identified several favourite activities but indicated that the intervention may be improved by including more games.

Overall Satisfaction

Student feedback suggested that the programme was acceptable and enjoyable. None of them reported negative experiences associated with the programme. Rather, students reported that they have enjoyed the programme thoroughly, describing it as “awesome”, “really good”, “it’s fun”, and “I feel really bad [that this is the last lesson] because this group is really good”.

Creating a Safe Environment

Students also reported enjoying coming to the programme because it gave them an opportunity to share their experiences in a safe environment.

[I like] telling secrets and like what’s going on your mind to someone that you can trust (030110).

If people are talking and they share on their story and then if someone even have a bad time for themselves and they share it together, they make people feel better (010110).

Favourite Activities

When asked about their favourite activity or component, students identified relaxation, dreamwork, and safe place imagination. They described using these techniques to control their emotions and to avoid conflicts.

Like when you are angry, you can make yourself relax (040108).

Like talking about dreams (010110).

How to feel the safe stuff when we get a big situation or big trouble (020110).

Dislikes of the Intervention

When asked about the activities they dislike, most students described enjoying all of the activities. One student expressed frustration towards interruptions from other students in the group which interfered with the group process.

Em nothing (020110).

One thing I don’t like is like when the teaching or somebody talking some people interrupt, that’s what I hate...Because you want to talk your point you cannot get the time to talk about it and someone interrupted and you know like (010110).

Suggestions for Improvement

When asked for ideas to improve the programme, students suggested playing games in the group and having more opportunity to share their personal experiences.

More talking about stuff (010110).

Adding some games...playing games without bullying each other (020110).

5.2.2 Parent Qualitative Feedback

Parents' qualitative feedback was categorised into several themes which included parent involvement, overall satisfaction, observable improvement, dislikes of the intervention, cultural compatibility, and suggestions for improvement. A brief discussion of the six themes generated from the qualitative feedback follows.

Parental Involvement

When asked whether their children told them about the programme, most parents said that their children did not tell them about the content of the programme.

Yes, when he comes back he practices relaxation (020110).

No he doesn't tell me anything. When I ask he just laughs (040108).

One day I ask her about the programme, Sarah stated that she knows what was taught but Sarah didn't practice at home (030110).

Overall Satisfaction

Despite their limited knowledge of the programme content, parents commented positively on the programme, and reported that their children's attitude and coping repertoire have improved as a result.

I'm very happy about it, the programme has really helped him to change his attitude (040108).

Normally for grown up they know what to do but children they don't. It's good children learn to look after themselves (020110).

Observable Improvement

Parents were asked to describe observable changes in their children in the last three months. A prominent improvement reported by parents was their children's

increased ability to manage their emotions. Parents described their children as looking happier, behaving better, and less agitated.

He's studying more properly now... yes, more happy (020110).

Yes, he doesn't get as easily annoyed as he used to, his general temperament.

Behaviour is improving. He doesn't get easily upset now (040108).

A little bit. Before she becomes angry very quick but now more patient and doesn't get as angry easily (030110).

Dislikes of the Intervention

When asked about aspects of the programme that they dislike, parents described the programme as acceptable and appropriate. One parent did not comment on this question because of his minimal understanding of the programme content.

Nothing. There is nothing about this programme I don't like, I like everything (040108).

I don't know. My daughter has not talked to me about the programme (030110).

Cultural Compatibility

Parents described the programme as compatible with their culture and belief. None expressed concerns about the content of the programme. A parent explained that the seemingly different cultural ideologies should not be a concern because they are essentially the same.

It is compatible, everything about my beliefs (040108).

The culture and belief is the same, the difference is only the language (020110).

Suggestions for Improvement

Parents described the programme positively and did not provide any suggestions for improvement.

No, whatever you've said, it was good (030110).

I won't make any suggestions. Everything has been good. From what I'm observing, the programme is very helpful and important (040108).

In addition to the open-ended questions, parents were invited to indicate whether the specific components of the programme were useful for their children. With the exception of one parent who indicated that she was unsure whether safe place imagination and relaxation has helped her child, other parents described all of the components as helpful. Parents agreed that it was important to inform the parents about what their children are learning in the intervention and said that they were willing to recommend the intervention to their friends. Hence it appears that parents were satisfied with the programme content.

5.2.3 Parent Quantitative Feedback

The mean total and subscale scores of the SDQP were within the normal and borderline range, and there was a general trend of improvement from pretest to posttest (Table 3). Bearing in mind the small sample size, a mixed effects linear regression model with time as fixed effect and parent as a random effect was used to test for prepost changes on each scale. In order to accommodate the small sample size the regression model was implemented through SPSS' Generalised Linear Mixed Models (GLMM: SPSS Version 20) using robust statistics. Significant time effects were found on Peer Problem subscale, $F(1,6) = 100.00$, $p = .000$, and Conduct Problem subscale, $F(1,6) = 7.26$, $p = .036$, suggesting significant reductions in difficulties in peer relationships and problematic behaviours from pretest to posttest.

Table 3

Means, Standard Deviations, and Significance Testings of SDQP scores from Pretest to Posttest (N = 4)

Outcome	Pretest		Posttest		Time Effect
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
SDQP Total	12.00	7.30	7.75	4.50	$F(1,6) = 0.00$, $p = 1.00$
Emotional symptom	2.00	1.41	2.25	1.50	$F(1,6) = 0.36$, $p = .569$
Peer problem	3.25	0.96	0.75	0.96	$F(1,6) = 100.00$, $p = .000$
Conduct problem	2.75	3.10	1.00	2.00	$F(1,6) = 7.26$, $p = .036$
Hyperactivity	4.00	3.65	3.75	3.40	$F(1,6) = 0.01$, $p = .914$
Prosocial behaviour	7.25	2.50	8.25	2.36	$F(1,6) = 2.67$, $p = .154$
Impact	1.25	2.50	0.50	1.00	$F(1,6) = 0.34$, $p = .583$

5.3 Discussion

Qualitative feedback from students and parents suggested that the intervention was acceptable and feasible to be conducted as a group programme in school. The intervention was described favourably by both students and parents, with students describing the utility of the intervention in improving their well-being and parents highlighting positive changes in their children following the intervention. Furthermore, a safe environment cultivated by the facilitators and group members appears to have facilitated the group process and dynamics. Non-compliance to group rules, on the other hand, appears to have affected group dynamics and enjoyment of the sessions. Most importantly, parents endorsed the intervention as helpful to their children and culturally appropriate, implicating that the TRT is culturally appropriate for war-affected children from diverse backgrounds.

Feedback from student and parents reflected the social validity of the intervention at both a global and component level. At a global level, social validity of the intervention was indicated by initial consent to participate and continued participation (Foster & Mash, 1999). Although student satisfaction with the specific components of the intervention was not assessed, students' identification of their favourite activities may be seen as an indication of the social validity of the intervention at a component level. Regular attendance and full compliance with the activities were also observed across the eight sessions. The continued participation could be related to the opportunity to share personal experiences in the group because students described enjoying the safe environment for them to share their "stories". The exchange of personal experiences among the students may have been an empowering experience, evidenced by their willingness to articulate the adversities they have been through. This echoes Yalom's (2005) therapeutic factors of group therapy where group therapy creates a sense of universality, group cohesiveness, and catharsis among group members.

While some researchers may prefer to form sex- (Gillis, 1993) and culture-specific groups (P. M. Barrett, Sonderegger, & Xenos, 2003), this mixed-ethnicity and -sex group did not appear to have impeded members from attending the group. Students reported enjoying the group and no conflicts between members were reported. While unclear, similarity in traumatic backgrounds may have facilitated group cohesion. For example, all four of the students reported having seen a dead

body and three reported having seen someone being beaten up and heard about the tragic death of their loved ones. Therefore, grouping members who have similar traumatic experiences may be an advantage (Yule, 2000).

Although students were encouraged to tell their parents what they have learnt from the intervention, only one parent reported being informed. As a result, some parents who did not read the tip-sheet or were not able to due to limited literacy may not necessarily have understood the techniques or activities their children have learnt from the programme. Despite this, parents described observing changes in their children after the intervention. Parents noted improved attitude, mood, and behaviour which were consistent with their children who reported using information from the intervention to manage their distress. For example, students reported using techniques from the programme to feel safe and relaxed, and consistently parents observed their children to be happier and less angry.

Feedback from students is pivotal for future implementation and modification of the intervention. Students specifically requested to extend the length of the intervention and to play games. Although allocating more time for participant self-disclose may facilitate intervention outcome, it risks altering the original focus of the intervention which is to normalise psychological symptoms and teach coping skills. The request to play games may mean that students found the intervention uninteresting. This may lead to poor engagement in the sessions and ultimately affect the outcomes of the programme. The literature shows that group facilitators play a critical role in delivering planned content and influencing group process (interaction between members, between members and facilitators, and the group as a whole (Geldard & Geldard, 2001). Therefore, an improvement that may be put in place is to train facilitators to be aware of both group content and process issues that may arise in a group setting.

Another interesting finding of this study is that while parents expressed acceptance of the intervention, they appeared reticent to make suggestions for the programme. While unclear, it was possible that their limited understanding of the programme content may have prevented them from making any comments about the programme. It was also probable that parents may have believed that they are less educated than those teaching their children; and therefore, did not feel confident to judge or make suggestions. Indeed, this was found in an earlier study where migrants

with poorer English fluency expressed more satisfaction with service delivery than migrants with better English fluency and those with higher education were more critical in their evaluation (Silove et al., 1997). As a result of these biases, the results should be interpreted with caution.

Results from the statistical analysis suggested a significant improvement in the peer relationship and conduct problem scores from pretest to posttest. However, the results should be interpreted cautiously because of the small sample size ($n = 4$). A replication of this study using the same measurement with a larger sample size is warranted.

5.3.1 Limitations and Future Research

The results of this pilot study should be treated with caution because of the small sample size, which relied on feedback from four students and three parents. The small sample size could mean that the significance testings did not have enough statistical power to detect the prepost differences on quantitative data. Furthermore, it is highly likely that the qualitative analysis did not reach saturation because of the small sample. Therefore, larger studies are warranted. In addition, the findings could have been affected by social desirability bias. Although anonymity of responses was assured, participants may have completed the questionnaires or answered the interview questions in a manner to appear socially desirable. This limitation may be addressed by using independent interviewers who are not involved in the implementation of the programme even though this may not completely eliminate social desirability bias. Furthermore, parents' feedback may be affected by their knowledge of the intervention and willingness to evaluate the intervention. Therefore, the results should be interpreted in light of these limitations.

The assessment of the social validity of this intervention may be improved by having multiple testing points rather than just one assessment at the conclusion of the programme. Given that the weekly sessions comprise different objectives and activities, students' ratings on each session may vary. Hence, feedback should be collected in each session. In a review of social validity instruments, Finn and Sladeczek (2001) underscored the importance of collecting data at various points in time, such as during and after an intervention, to examine participant satisfaction

with different segments of an intervention. Therefore, future studies may consider assessing participant satisfaction during and after the intervention.

While parents cooperated with the procedure by completing the feedback and SDQP, it was noted that the long phone interviews lasting more than 45 minutes in some cases may discourage parents from participating. Therefore, considering that the forced-choice items which query about parental perception of the utility of the specific intervention components did not add much information to the whole interview and that excluding these items will likely reduce demands placed on parents, these items may be excluded from future evaluation.

Considering the benefits of multiple informants, future studies may consider obtaining teachers' reports. Disparity in symptom reporting between children and informants has been widely reported in mainstream and refugee research (Björn et al., 2011; Goldin et al., 2008; Goodman & Scott, 1999; Montgomery, 2008). For example, Goldin et al. found similarity in symptoms reported by children and parents but disparity between adolescents and parents. In addition, teachers were found to report observations that were not identified by parents. These findings reflect the potential benefits of obtaining teacher observations as an outcome measure in future studies.

Due to timetabling conflicts, students' posttest assessment was not collected. Although treatment efficacy could not be examined due to the failure to administer posttest, adhoc conversation with students indicated that they did not have any significant difficulties in completing the questionnaires as long as clear instructions were given. Furthermore, while having data on treatment efficacy would be an advantage, it was not the aim of this pilot study to test the efficacy of the intervention. Future studies could be improved by having stronger collaboration with school personnel so that assessments are conducted within the time frame. No other complications in the research procedure were noted.

5.4 Chapter Summary

While previous studies have demonstrated the successful implementation of the TRT (e.g., Barron et al., 2012; Ehntholt et al., 2005), it is believed that this is the first time the intervention was piloted with young migrants in Australian schools. Although the findings should be interpreted in light of the study limitations such as

small sample size and insufficient data, feedback from parents and students suggest that families and students who have been exposed to trauma experienced this group-based intervention as acceptable and culturally appropriate. This is a considerably important finding considering that Australia has received almost 800,000 refugees and humanitarian entrants since 1901 and is continuing to receive humanitarian entrants who are likely to have experience traumatic experiences (York, 2003). To recently arrived families who are not familiar with mainstream referral system or are unwilling to send their children to mainstream health services, allowing their children to attend an intervention run in familiar environments such as schools may be a more attractive alternative (Ehnholt et al., 2005; Oehlberg, 2011). Therefore, current findings should be substantiated using larger controlled trials.

Chapter 6: Study Two

The Efficacy of a School-based Group Intervention for War-exposed Young Migrants: A Cluster Randomised Trial

A survey of previous studies published in the refugee literature highlighted the scarcity of studies that have involved the evaluation of the efficacy of group CBT interventions for war-affected children and adolescents, and the methodological shortcomings of current studies. One of the promising interventions is the Teaching Recovery Techniques (TRT; Smith et al., 2000), a manualised CBT-based programme designed to develop coping skills in children following exposure to trauma and violence. The positive effects of this intervention on children have been discussed in Chapter 3. However, larger RCTs using appropriate statistical tools and the generalisability of the earlier findings to refugee students resettled in developed countries like Australia are yet to be tested. Therefore, the aim of Study Two was to investigate the efficacy of the TRT as a school-based intervention for war-exposed young migrants who reported symptoms of PTSD.

6.1 Method

6.1.1 Design

The design of this study was a cluster RCT with pretest, posttest, and 3-month follow-up. A cluster or multilevel design was used because students were nested within schools and schools were randomly allocated to conditions (Campbell et al., 2004). The intervention condition comprised 8 weeks of group intervention whereas the waiting list (WL) control condition involved a waiting period without the intervention. The intervention was offered to participants in the WL condition after the waiting period. Considering the risk of selection bias if assessors or participants knew beforehand about group allocation, schools and participants were recruited prior to group allocation (Puffer, Torgerson, & Watson, 2003). In order to improve group equivalence, schools were match-paired by school type (public vs. private) and school level (primary vs. secondary school). Due to the small number of participating schools, schools were not perfectly matched on socioeconomic status

and total number of students. Of the total sample of 11 schools, 4 schools ran the programme twice, producing 8 school pairs (16 groups) in total (Table 6). Each school in a pair was randomly allocated into either the intervention or WL control condition by the statistical supervisor of this study who had no clinical involvement in the study, using a computer generated random number. Building on the current literature, the hypotheses of this study included:

H1. Participants in the intervention condition will report a significantly greater improvement in PTSD, depression, internalising and externalising behaviour, and psychosocial functioning from pretest (Time 1) to posttest (Time 2) compared to participants in the WL control condition.

H2. The significant improvements observed at posttest in the intervention condition will be maintained or enhanced at 3-month follow-up (Time 3).

H3. Participants in both conditions will report a significant improvement in PTSD, depression, internalising and externalising behaviour, and psychosocial functioning from immediate pretest (Intervention's Time 1; WL control's Time 2) to immediate posttest (Intervention's Time 2; WL control's Time 3).

Table 4

Total Number of School by School Type and School Level (Participant Number in Parentheses) in Intervention and WL Control Conditions

Characteristic	Intervention <i>n</i> = 8(45)	WL Control <i>n</i> = 8(37)
School type		
Private	2(6)	2(5)
Public	6(39)	6(32)
School level		
Primary	2(17)	2(18)
Secondary	6(28)	6(19)

6.1.2 Participants

An a priori power analysis was conducted prior to the commencement of the study to determine the sample size required to detect a small to moderate interaction effect ($f = .15$) between group (intervention, control) and time (pretest, posttest) at an alpha-level of .05. According to G*Power (Faul, Erdfelder, Lang, & Buchner, 2007), this estimate is 90 participants. As per Campbell and colleagues' (2004) recommendation this estimate was multiplied by the design effect. Design effect accounts for the reduction in the effective sample size due to intraclass correlation (ICC) and is operationalised as $1 + (m - 1) * ICC$ (Campbell et al., 2004). Eleven schools (with 8 participants in each school) were anticipated and with a liberally estimated ICC level of .10 for the primary outcomes of PTSD and depression across the 11 schools, the design effect is 1.7. Multiplying the G*Power estimates of 90 by 1.7 yields a required sample size of 153.

A total of 82 participants (45 in intervention; 37 in WL control) were recruited, which was fewer than intended. Participants were recruited through 11 schools in the Perth metropolitan areas. The inclusion and exclusion criteria of Study One (section 5.1.2) applied in this study. Information on exposure was obtained from parents and students using the demographic information form and the UCLA PTSD Index. In cases where there was a discrepancy between parents and students, exposure reported by either party was considered appropriate. In instances where English fluency was questionable, participants were given an opportunity to complete the screening questionnaire and those who had difficulty understanding the items were excluded. Figure 2 shows participant flow, at individual and cluster level, through each stage of the study.

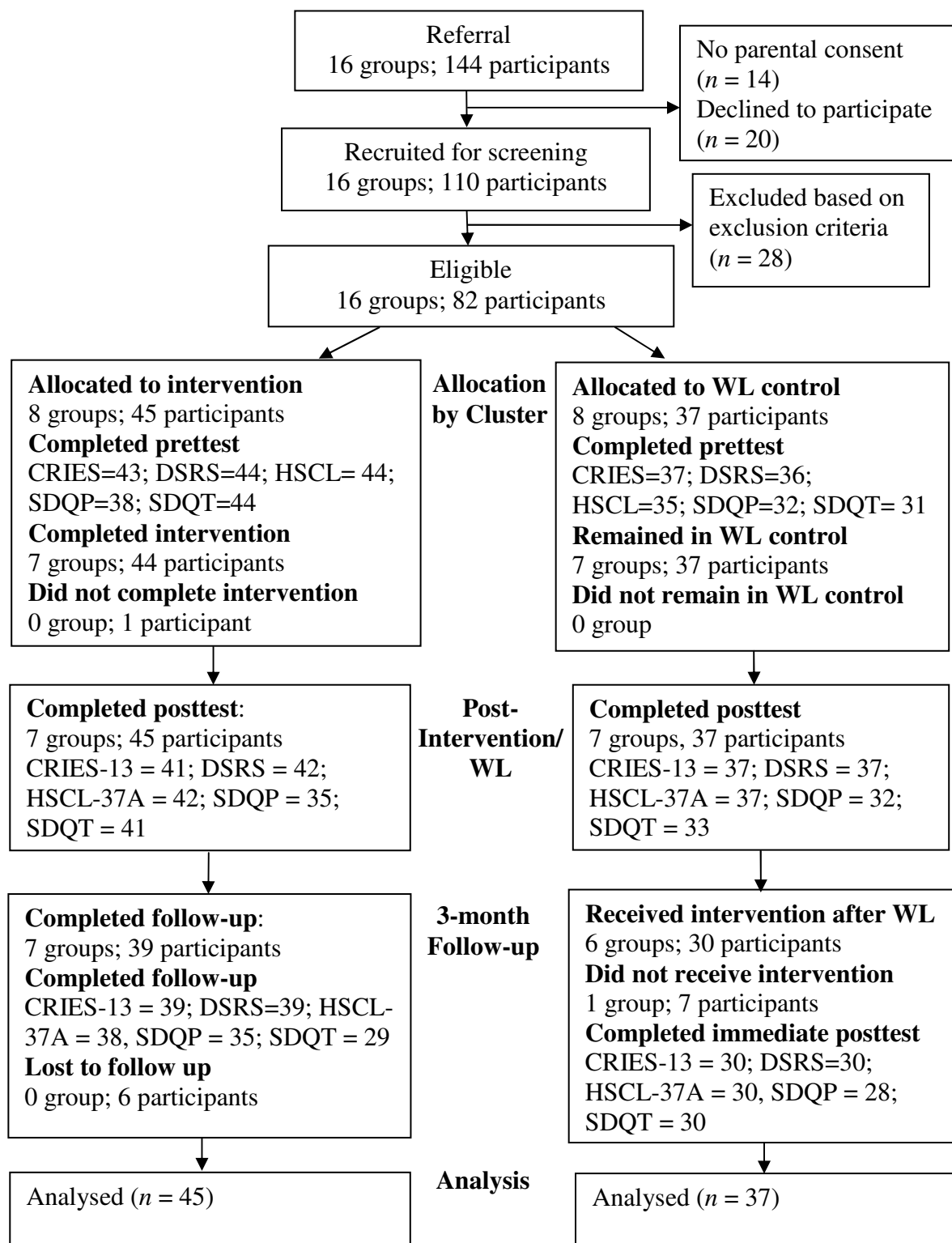


Figure 2. Participant flow for Study Two (CONSORT Flowchart).

6.1.2.1 Student characteristics.

The sample comprised more males ($n = 53$) than females ($n = 29$) and the mean age of participants in the intervention condition, 13.13 years ($SD = 1.50$), was similar to that of WL control condition, 12.05 years ($SD = 1.75$). The average duration of living in Australia ranged from 1 to 7 years, with a mean of 2.36 years ($SD = 1.73$) for the intervention condition and 2.32 years ($SD = 1.87$) for the WL control condition. Although recruitment targeted children aged between 11 and 17 years, several children just outside the targeted ages were included because of the common conflicting reports of age among refugee children (Ellis et al., 2008). The majority of children were rated by interviewers to have a *fair* level of English fluency, indicating ability to understand instructions at assessment. Almost half of the participants were described by their parents to have been exposed to war-related trauma and more than half had lived in a refugee camp. The highest number of war-related traumatic events endorsed by students ranged between 0 and 9 with the UCLA PTSD Index (Rodriguez et al., 1999) score ranging from 4 to 37. The majority of students (60% in the intervention; 51% in the WL control condition) were born in an African region. Table 4 shows comparisons of baseline characteristics between the intervention and WL control conditions. Participants in both conditions were comparable in all of the variables except the UCLA PTSD Index score in which participants in the intervention condition reported higher score ($M = 23.11$, $SD = 8.77$) than participants in the control condition ($M = 17.55$, $SD = 9.05$). None of the baseline variables had a significant relationship across the outcomes. Hence, baseline characteristics were excluded as covariates in the subsequent analyses.

Table 5

Baseline Characteristics for Participants in the Intervention and WL Control Conditions

Characteristic	Intervention (<i>n</i> = 45)			WL Control (<i>n</i> = 37)			Statistics
	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	Range	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	Range	
Sex							
Male	33(73)			20(54)			
Female	12(27)			17(46)			$\chi^2(1, n = 82) = 3.30, p = .069$
Age		13.13 (1.50)	10-16		12.05(1.75)	10-17	$t(80) = 0.22, p = .826$
Years in Australia		2.36(1.73)	1-7		2.32(1.87)	1-7	$t(75) = 0.09, p = .926$
English fluency							
Good	8(19)			11(30)			
Fair	34(81)			26(70)			$\chi^2(1, n = 79) = 1.23, p = .268$
Exposed to war							
Yes	21(51)			17(46)			
No	20(49)			20(54)			$\chi^2(1, n = 78) = 0.22, p = .642$
Spent time in camps							
Yes	25(61)			25(68)			
No	16(39)			12(32)			$\chi^2(1, n = 78) = 0.37, p = .544$
Years in camps		7.04(3.93)	1-13		8.85(3.29)	2-14	$t(44) = -1.69, p = .098$
Number of traumas		4.29(2.26)	0-8		4.17(1.84)	1-9	$t(69) = 0.24, p = .808$
UCLA PTSD Index		23.11(8.77)	4-36		17.55(9.05)	4-37	$t(80) = 2.82, p = .006$
Birth region							
Africa	27(60)			19(51)			
Asia	5(11)			13(35)			
Middle East	9(20)			5(14)			$\chi^2(2, n = 78) = 4.68, p = .096$

Note. Sample size varies across variables due to missing data. UCLA PTSD Index = UCLA PTSD Reaction Index for DSM-IV. Africa = Burundi, Congo, Guinea, Ethiopia, Kenya, Sierra Leone, Sudan, Tanzania, and Uganda; Asia = Burma, Thailand, and Sri Lanka; Middle East = Afghanistan, Iran, and Iraq.

6.1.2.2 Primary carer characteristics.

The majority of carers interviewed were mothers and were not holding an employment. Large household sizes ranging from 2 to 10 people were reported. The majority of carers reported practicing a religion, with 60% of carers describing practicing the Christian religion. A wide range of socioeconomic status (SES) was reported but the mean SES decile of lower than 5 in both groups indicated that most of the families are within the lowest 50% of disadvantage compared to the Australian nation. The characteristics of the carers in both conditions are comparable, except the household size and SES. Primary carers in the intervention condition lived in larger households ($M = 6.23$, $SD = 1.57$ vs. $M = 5.42$, $SD = 1.65$) and had lower SES scores ($M = 2.38$, $SD = 1.91$ vs. $M = 4.57$, $SD = 2.70$) than primary carers in the WL control condition. Detailed baseline characteristics of the carers are presented in Table 5.

6.1.3 Measures

The demographic information form used in Study One was employed to collect each participant's demographic details. Parents who had more than one child participating in the study were asked to complete one form for each child. The screening and outcome measures used in Study One were used in this study. The internal consistencies of the measures for this study were examined and most of them were satisfactory. For example, the Cronbach's alpha coefficients of the CRIES-13 and DSRs were found to be .76 and .72 respectively. The Cronbach's alphas of the HSCL-37A total, internalising, and externalising scores were .87, .85, and .62 respectively. The internal consistency of the SDQP total difficulties ($\alpha = .54$) and prosocial scores ($\alpha = .45$) were lower than expected. Other information about the measures can be found in Study One (section 5.1.3).

Teacher-rated Strengths and Difficulties Questionnaire

The teacher-rated Strengths and Difficulties Questionnaire (SDQT; Goodman et al., 2000; Appendix L) was employed in this study in order to obtain information about each child's functioning in public situations (Goldin et al., 2008). Like the SDQP, the SDQT consists of 25 items rated on a 3-point scale, ranging from 0 (*not true*), 1 (*somewhat true*) to 2 (*very true*). SDQT with the impact supplement was used. The SDQP has a good internal consistency, with Cronbach's alpha coefficients ranging from .70 to .87 for the total and subscale scores (Goodman, 2001).

Table 6

Baseline Characteristics of Families for Intervention and WL Control Conditions

Characteristic	Intervention (<i>n</i> = 45)			WL Control (<i>n</i> = 37)			Statistics
	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	Range	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	Range	
Primary carer							
Mother	22(49)			21(57)			
Father	17(38)			11(30)			
Others/unreported	6(13)			5(13)			$\chi^2 (2, n = 82) = .63, p = .731$
English fluency							
Good	7(18)			6(17)			
Fair	8(20)			6(16)			
Poor	25(62)			25(68)			$\chi^2 (2, n = 77) = .25, p = .884$
Parent's occupation							
Unemployed	34(85)			27(73)			
Employed	6(15)			10(27)			$\chi^2 (1, n = 77) = 1.69, p = .194$
Religion							
Christian	26(58)			26(70)			
Muslim	12(27)			8(22)			$\chi^2 (1, n = 72) = 0.58, p = .446$
Household size		6.25(1.57)	3-10		5.42(1.65)	2-9	$t(74) = 2.262, p = .027$
SES decile		2.38(1.91)	1-6		4.57(2.70)	1-10	$t(74) = -4.079, p = .000$

Note. Sample size varies across variables due to missing data. SES decile = Socioeconomic status by Index of Relative Socio-economic Disadvantage, with lowest decile indicating greatest disadvantage (Australian Bureau of Statistics, 2006).

In addition, Goodman reported a 6-month test-retest reliability of .65 to .80 for the total difficulties and subscale scores respectively. Similar to the SDQP, the scores can be summed to produce several subscale scores but for the purpose of this study, the total difficulties and prosocial scores were employed. The Cronbach's alpha coefficients of the total difficulties and prosocial scores in this study were .88 and .80 respectively.

6.1.4 Intervention

The intervention was delivered in 8 sessions of 60 minutes each and the intervention schedule can be found in Study One (section 5.1.4). In brief, the first session involved an introduction and setting group rules whereas the second and third sessions focused on the first component (i.e., intrusion) of the TRT programme. The subsequent sessions (sessions 4 and 5) focused on avoidance aspects of PTSD and the last three sessions (sessions 6 to 8) targeted avoidance symptoms. Given that parallel parent sessions were deemed difficult, if not impossible, to implement due to parents' busy schedules and transportation issues, the parent tip sheet used in Study One was employed in this study. A phone call was made to parents to encourage them to remind their child to complete their homework.

6.1.4.1 WL control condition.

Participants in the WL control condition did not receive any forms of intervention during the waiting period but were offered the intervention at completion of the trial. Arrangements were made for participants who became distressed during the waiting period to be withdrawn from the programme for immediate intervention according to the crisis protocol (Appendix M). However, none of the participants in the WL control condition withdrew during this period.

6.1.4.2 Treatment integrity.

Although the groups were facilitated by different co-facilitators, the sessions were run with close adherence to the TRT manual. In order to maintain treatment integrity, facilitators completed the facilitator's log (Appendix N) after each session. The checklist comprised a list of activities that should be covered in each session. Facilitators indicated whether each activity was covered, and rated overall success of

each session and activity using a 4-point Likert scale, ranging from 1 (*not at all successful*) , 2 (*somewhat successful*), 3 (*fairly successful*) to 4 (*very successful*). The benefit of this checklist is twofold a) to evaluate overall success of the session; and b) to examine treatment integrity and consistency across groups and facilitators. To further ensure treatment consistency across the groups, the author of this study facilitated all of the group sessions.

6.1.5 Procedure

6.1.5.1 Recruitment.

The same ethical approvals for Study One applied for Study Two. Data were collected in 2010 (six intervention; six WL control groups) and 2011 (two intervention; two WL control groups). In mid-2009, an invitation letter (Appendix O) was sent to 52 private schools registered with the Catholic Education of Western Australia. Nine schools consented but only two schools that had a minimum of 10 refugee students in our targeted age range were shortlisted. In order to increase our sample pool, 16 public schools with a high density of refugee students were approached and nine consented. The primary reasons for declining were a lack of interest, small population of refugee students, and the presence of existing mental health programmes.

Potential participants were referred by their school based on their family background and current functioning. For example, most of the participants were referred because they appeared sad or down, identified themselves as refugees, or talked about their traumatic pre-migration experiences. In accordance with the specific ethical guidance regarding young people by the National Statement on Ethical Conduct in Human Research (National Health and Medical Research Council, Australian Research Council, & Australian Vice-Chancellors' Committee, 2007), consent was obtained first from parents, then from the children.

Parents were approached using several strategies, including holding parent information sessions at school, sending a brief (Appendix P) or a full Participant Information letter (Appendix K) to parents, and direct teacher-parent telephone calls. Parent information sessions were held at two schools and 16 parents were recruited. However, it was a very time consuming and logistically difficult strategy because most parents have younger children and did not have their own transport. Therefore,

a brief information form outlining the programme objective, selection criteria, and potential benefits was sent through the schools. The form was translated into the main languages spoken by the targeted families, including Arabic, Farsi, Kirundi, Karen, and Burmese. Parents were requested to indicate, on the form, whether they were interested or not interested in the project, and to supply their contact details so that they could be contacted for full consent.

The majority of parents responded to the brief information letter and was contacted by assessors for full consent. Telephone interpreters were used at the parent's request or assessor's discretion. A small number of parents who did not respond to the letters were contacted by a school teacher or psychologist for consent. Parents who expressed interest in the study received the full Participant Information and consent form. The voluntary nature of the study was emphasised and active consent, written or verbal, was sought. Students whose parents consented were approached at school during school hours. Participants read the Participant Information letter and signed the written consent before screening. They were screened in groups of three to five students by trained assessors (four psychology students and the author). The screening assessment took approximately 60 minutes and was conducted in English.

6.1.5.2 Administration of assessments and intervention.

Pretest and posttest were conducted concurrently across both conditions one to two weeks before and after the intervention or waiting period. The intervention groups were run during school hours, one hour a week for eight weeks. Most of the groups were run within a school term of approximately 10 weeks. Group size ranged from 4 to 10 participants and timing of the groups was dictated by the schools. For example, some schools ran the programme in the morning while others ran the programme in the afternoon depending on their timetables.

The sessions were facilitated by two facilitators, comprising the author and a co-facilitator. The four co-facilitators were masters and PhD level psychology students at Curtin University who had received a one-day training from the author. Some groups were facilitated by onsite school psychologists due to unavailability of trained facilitators. The author had received a three-day training on programme implementation by Professor William Yule and Dr Atle Dygrove in Oslo in 2009.

The author also received ongoing clinical supervision from the project supervisors, Associate Professor Clare Roberts and Dr Rosie Rooney. The co-facilitators were offered briefings from the author after each session. Students in the WL control condition were offered the intervention after their waiting period and an immediate posttest was collected at the end of the intervention. A 3-month follow-up was administered to participants in the intervention condition. The study procedure is illustrated in Figure 3.

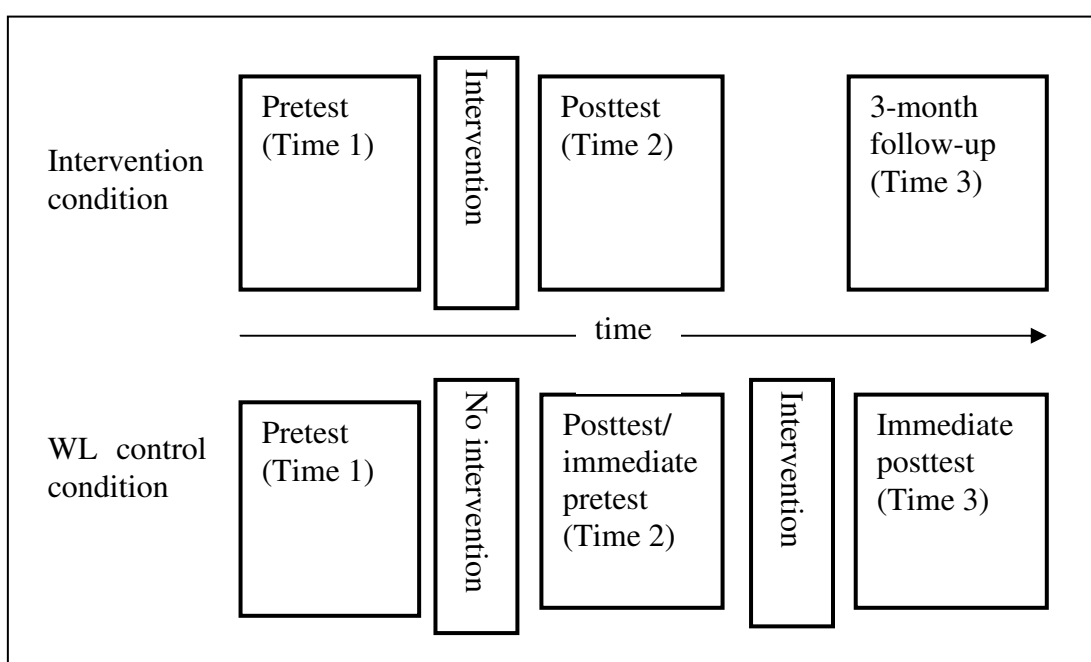


Figure 3. Graphic illustration of the study procedure.

6.1.6 Statistical Analysis

The eight outcomes of this study were the CRIES-13 total, DSRS total, HSCL-37A Internalising subscale, HSCL-37A Externalising subscale, SDQP total difficulties, SDQT total difficulties, SDQP Prosocial subscale, and SDQT Prosocial subscale scores. Analysis of change was conducted using the multilevel mixed effects linear regression (MLM) as implemented through SPSS' Generalised Linear Mixed Models (GLMM: SPSS Version 20).

MLM is recommended for nested data because the assumption of independence of observation is violated in nested data since individuals in the same groups are more likely to be exposed to similar social and environmental experiences compared to those from a different group (Kahn, 2011). MLM is also appropriate for

unbalanced designs. Unequal group size is a common issue in analysis of variance (ANOVA), causing the problem of nonorthogonality and increasing chances of Type I error (Tabachnick & Fidell, 2007). Furthermore, cases with missing data are excluded from analysis, reducing power and wasting information collected. MLM, however, is able to include incomplete cases that have missing data because it uses maximum likelihood compared to ANOVA's least squares which only works with balanced data. This advantage makes MLM a very practical analysis because missing data at various data collection points are common in real life settings (Kahn, 2011).

H1 was tested using an MLM model consisting of two fixed effects (time: Time 1, Time 2; group: intervention, WL control), and three random effects (student, school, and school type). H2 was tested using an MLM model consisting of one fixed effect (time: Time 1, Time 2, Time 3), and three random effects (student, school, and school type). H3 was tested using an MLM model consisting of two fixed effects (time: immediate pretest, immediate posttest; group: intervention, WL control) and three random effects (student, school, and school type). School and school type (primary school vs. secondary school) were included as random effects because participants were nested within these clusters. In order to optimise the likelihood that the MLM solution would converge, a separate MLM model was tested for each outcome. Bonferroni adjustment was made within groups of conceptually similar outcomes (Table 7). Considering that SPSS' GLMM procedure does not generate estimates of effect size, effect size was estimated using partial eta-squared which can be easily generated from analysis of variance. Values of .01, .06, and .14 are equivalent to a small effect size, medium and large effect size respectively (J. Cohen, 1988).

Table 7

Bonferroni Adjustment within Groups of Conceptually Similar Outcomes

Concept	Outcome	Bonferroni-adjusted alpha level
PTSD	CRIES-13	.05/1 = .050
Internalising	DSRS	.05/2 = .025
	HSCL-37A Internalising	
Externalising	HSCL-37A Externalising	.05/3 = .017
	SDQP Prosocial	
	SDQT Prosocial	
Total difficulties	SDQP	.05/2 = .025
	SDQT	

Ancillary analyses, including reliable change index and programme integrity, were conducted to supplement statistical hypothesis testing. Meaningful changes in individual participants were estimated using reliable change (RC) using PTSD and depression scores because both disorders are commonly reported by war-affected children (Bronstein & Montgomery, 2011; Fazel et al., 2005). RC refers to reliable changes that are not due to measurement errors (Jacobson & Truax, 1991). Jacobson and Truax suggested that an RC of 1.96 or greater toward the direction of healthy range indicates *improvement*; whereas an RC of 1.96 or greater toward the direction of clinical range indicates *deterioration*. Scores that fall within 1.96 are classified as *unchanged*. Chi-square was conducted to compare RC in the intervention and WL control condition. Programme integrity was explored using descriptive analysis.

6.2 Results

6.2.1 Data Screening

Statistical analysis was conducted using SPSS Version 20. Data were entered and re-checked to reduce errors in data entry. Data cleaning was then conducted using SPSS Univariate Descriptive and Frequency Analysis to check for missing and out-of-range values (Tabachnick & Fidell, 2007).

6.2.2 Missing Data

SPSS Missing Value Analysis was performed to screen for missing data. Missing data were investigated in terms of unit non-response and item non-response (Schafer & Graham, 2002). Unit non-response occurs when participants do not complete a particular assessment or data collection point, thus failing to complete

any questionnaires. Of the 1936 possible data points for the eight outcomes collected from three assessment points, unit non-response was about 10%. Given that assessments were conducted over several months, missing data are likely to stem from those who dropped out of the study, commonly known as wave non-response. The percentage of unit non-response was smaller in student responses (approximately 6%) compared to parent (17%) and teacher responses (14%; Table 8). The lower missing rate in student responses compared to teacher or parent responses may reflect the convenience of re-interviewing students when they return to school but not so for parent or teacher responses because we relied on them to return the questionnaires through mail or telephone.

On the other hand, item non-response refers to partially incomplete data where participants miss out certain items. Less than 10% of item non-response was observed in each measure. The highest rate of item non-response in CRIES-13 and HSCL-37A was less than 2%, and less than 3% for DSRS but 7% in SDQP and 9% in SDQT. Whilst unclear, it is likely that item non-response in SDQP and SDQT is associated with the complexity of some of the items. For example, “thinks things out before acting” requires informants to be attentive to their children’s thought processes, and “kind to younger children” assumes that the informants have had the opportunity to observe their interaction with younger children.

Table 8

Unit Non-response across Time and Condition in Outcome Measures

	<i>n</i>	Missing (%)
CRIES-13	227	15(6.2)
DSRS	228	14(5.8)
HSCL-37A Internalising	228	14(5.8)
HSCL-37A Externalising	228	14(5.8)
SDQP	200	42(17.4)
SDQP Prosocial	200	42(17.4)
SDQT	208	34(14)
SDQT Prosocial	208	34(14)

Note. CRIES-13 = Children’s Revised Impact of Event Scale; DSRS = Birlleson Depression Self-Rating Scale; HSCL-37A = Hopkins Symptom Checklist-37 for Adolescents; SDQP = parent-rated Strengths and Difficulties Questionnaire; SDQT = teacher-rated Strengths and Difficulties Questionnaire.

Replacement of item non-response. Tabachnick and Fidell (2007) advised that pattern of missingness, which determines the type of handling method, is as important as, if not more than, the amount of missing data. The pattern of missingness can be divided into three categories. Data are defined as missing completely at random (MCAR; Rubin, 1976) when missing data are unrelated to any variables in the data and completed cases are representative of the original sample. Data are regarded as missing at random (MAR) when missing data is associated with another (observed) variable in the sample. Data are missing not at random (MNAR) when the probability of missing data depends on the missing data.

Little's MCAR test conducted for each outcome measure was statistically significant except for the CRIES-13, SDQP Prosocial, and SDQT Prosocial and this suggested that missing data were not MCAR but may be MAR or MNAR. Nevertheless, Schafer and Graham (2002) argued that in social sciences applications, the true cause of missingness in MNAR is often an unmeasured variable moderately correlated with the outcomes which will not generate any large biased estimation. Even if one makes an erroneous assumption about MAR, it will only lead to negligible impact on estimates (Collins, Schafer, & Kam, 2001). Considering these arguments, item non-response was assumed to be MAR and Estimated Maximization (EM) algorithm was used to impute item non-response so that total scores could be obtained. In line with Bohlmeijer, Fledderus, Rokx, and Pieterse's (2011) study, time and group condition were included in the EM analysis to generate EM values to replace item non-response. Unit non-response was not replaced or deleted given that MLM is able to work with missing cases. Table 9 displays the descriptive statistics of the sample after item non-response was replaced.

Independent *t*-tests revealed no significant differences between the conditions on pretest outcomes except on the CRIES-13, $t(78) = 2.04, p = .045$, SDQT, $t(78) = 2.00, p = .049$, and SDQT Prosocial, $t(78) = -2.09, p = .040$. Between-group differences in pretest scores or existing individual differences can produce between-group differences in the degree to which these factors influence posttest outcome scores (Tabachnick & Fidell, 2007). Unfortunately, this problem cannot be solved by including the pretest scores as a covariate in the GLMM procedure because doing so would reduce what is essentially a longitudinal analysis (comparing the two conditions in terms of the degree to which their scores change from pretest to

posttest) to a cross-sectional analysis (comparing the two conditions on adjusted scores at a single posttest assessment). A longitudinal analysis generally conveys more information than a cross-sectional analysis (Hedeker & Gibbons, 2006) and given that the inclusion of pretest scores as a covariate in the GLMM cannot resolve the problem outlined above, the present thesis opted to not include pretest scores as covariate in GLMM procedures.

6.2.3 Assumption Testing

MLM is an extension of multiple linear regression; therefore, similar assumptions applied (Tabachnick & Fidell, 2007). First, the assumption of normality which requires variables to be normally distributed was examined using histograms of each of the outcome measure by time. Visual examination of the histograms and Shapiro-Wilk statistics suggested that most of the outcomes were normally distributed except the distributions of the CRIES-13 and SDQP at Time 3, and HSCL-37A Internalising subscale at Times 2 and 3. In addition, the distributions of the HSCL-37A Externalising subscale, SDQT, SDQT Prosocial subscale, and SDQP Prosocial subscale were skewed across all assessment points. Kahn (2011), and Tabachnick and Fidell (2007) proposed repeating analyses with standard errors that are robust to violation of normality to check for inconsistent results if violation is suspected. Therefore, analyses involving these variables were conducted with robust standard errors.

Homogeneity of variance-covariance which assumes equal variability in outcome measures in all groups was examined using SPSS Box's *M* test conducted on each outcome by time of assessment (Tabachnick & Fidell, 2007). The results of Box's *M* test on most outcomes were statistically non-significant ($p > .05$), except the HSCL-37A Externalising subscale ($p < .001$), SDQP ($p = .004$), and SDQP Prosocial subscale ($p = .003$). The assumption of sphericity which requires equal variances between time pairs was tested using a 2 (Group) x 3 (Time) mixed ANOVA conducted on each outcome measure. Mauchly's test of sphericity was non-significant ($p > .05$) for all outcomes, except the HSCL-37A Internalising subscale ($p = .002$) and SDQT ($p = .011$). The violation of these assumptions justified the utilisation of MLM to analyse the current data because it allows the modelling of the variance co-variance matrix directly from the data (Max & Onghena, 1999).

Given that participants were nested within school and school within school type (primary school vs. secondary school), the intraclass correlations (ICCs) for school and school type for each pretest outcome were calculated using Tabachnick and Fidell's (2007) formula with the parameters generated from the SPSS Mixed Models procedure. For school clustering effect, the ICC value of the outcomes ranged from 0.03 to 0.26, confirming the inclusion of school as a nesting factor. For school type clustering effect, the ICC value for the majority of outcomes was less than .01, except for the HSCL-37A Externalising subscale ($\rho = .07$), SDQP ($\rho = .07$), and SDQT Prosocial subscale ($\rho = .04$). An ICC value of less than 0.01 is generally considered negligible (Barcikowski, 1981); therefore, school types was not considered to be a major cause of dependency in the data, reducing the current study to a 3-level model (time nested within student and student nested within school). School type cluster was nevertheless included in analyses involving HSCL-37A Externalising subscale, SDQP, and SDQT Prosocial subscale given its high ICC value.

Table 9

Means and Standard Deviations of the Outcome Measures for Intervention (n = 45) and WL Control Condition (n = 37) Across Time

Outcome	Time 1 <i>M(SD)</i>		Time 2 <i>M(SD)</i>		Time 3 <i>M(SD)</i>	
	Intervention	WL Control	Intervention	WL Control	Intervention	WL Control
CRIES-13	23.02(10.51)	17.92(11.86)	15.88(9.58)	15.68(8.84)	12.71(10.24)	14.17(11.06)
DSRS	10.96(5.26)	9.17(4.61)	8.68(5.48)	8.81(4.80)	8.29(4.46)	8.03(5.13)
HSCL-37A						
Internalising	40.17(9.58)	38.13(7.75)	36.54(8.52)	35.00(8.29)	33.39(8.60)	34.62(8.99)
HSCL-37A						
Externalising	15.31(2.92)	14.67(2.58)	15.35(3.74)	14.30(2.08)	14.31(2.07)	13.93(1.81)
SDQP	7.34(3.64)	7.53(4.24)	5.83(2.81)	5.34(4.03)	5.31(3.64)	4.04(3.05)
SDQP Prosocial	8.66(1.62)	8.34(1.60)	8.66(1.33)	8.50(2.00)	8.60(1.67)	9.21(0.79)
SDQT	8.59(6.23)	5.81(5.47)	9.10(7.62)	7.67(5.66)	9.07(6.38)	4.60(4.08)
SDQT Prosocial	7.07(2.25)	8.13(2.05)	6.98(2.59)	7.91(2.21)	6.24(2.31)	8.53(1.81)

Note. Sample size varies across measures and time due to missing data. Time 1 = pretest; Time 2= posttest or immediate pretest; Time 3 = intervention condition's 3-month follow-up or WL condition's immediate posttest; CRIES-13 = Children's Revised Impact of Event Scale; DSRS = Birleson Depression Self-Rating Scale; HSCL-37A = Hopkins Symptom Checklist-37 for Adolescents; SDQP = parent-rated Strengths and Difficulties Questionnaire; SDQT = teacher-rated Strengths and Difficulties Questionnaire.

6.2.4 Hypothesis Testing

H1. Participants in the intervention condition will report a significantly greater improvement in PTSD, depression, internalising and externalising behaviour, and psychosocial functioning from pretest (Time 1) to posttest (Time 2) compared to participants in the WL control condition.

For the CRIES-13, a non-significant Time x Group interaction were observed, $F(1,154) = 3.09$, $p = .081$, partial $\eta^2 = 0.04$, and a statistically significant time effect with a large effect size, $F(1,154) = 8.69$, $p = .004$, partial $\eta^2 = 0.14$, were observed, suggesting an improvement in both conditions. On the other hand, a statistically significant Time x Group interaction effect with a medium effect size was obtained for the DSRS, $F(1,155) = 5.20$, $p = .024$, partial $\eta^2 = 0.07$. The significant interaction effect was further analysed using LSD post-hoc comparisons which demonstrated a statistically significant reduction of DSRS scores in the intervention condition, $t(155) = 3.84$, $p < .001$, but not in the WL control condition, $t(155) = 0.47$, $p = .643$. A statistically significant time effect with a large effect size was observed on the SDQP, $F(1, 133) = 10.62$, $p = .001$, partial $\eta^2 = 0.18$, suggesting an improvement on psychosocial functioning regardless of treatment condition. All other effects were non-significant. Comparisons between intervention and WL control condition on the outcome measures are presented in Table 10. Figure 4 illustrates the changes observed on the outcomes from Time 1 to Time 2.

H2. The significant improvements observed at posttest in the intervention condition will be maintained or enhanced at 3-month follow-up (Time 3).

Participants in the intervention condition reported significant reductions from Time 1 to Time 3 with a large effect size on the CRIES-13, $F(2,120) = 14.03$, $p < .001$, partial $\eta^2 = 0.25$, DSRS, $F(2,122) = 7.24$, $p = .001$, partial $\eta^2 = 0.20$, and SDQP, $F(1, 105) = 81.72$, $p < .001$, partial $\eta^2 = 0.17$. A more important finding was that there was no further reduction of the DSRS score from Time 2 to Time 3, $t(122) = 0.77$, $p = .443$. An interesting finding was the significant reductions of the HSCL-37A Internalising subscale, $t(121) = 2.47$, $p = .015$, and the Externalising subscale, $t(122) = 12.51$, $p < .001$, from Time 2 to Time 3 which suggest a possible delayed

intervention effect. However, this conclusion cannot be established due to the absence of a control group at follow-up. The within-group changes are presented in Table 11 and Figure 5.

H3. Participants in the intervention and WL control conditions will report a significant improvement in PTSD, depression, internalising and externalising behaviour, and psychosocial functioning from immediate pretest (intervention's Time 1; WL control's Time 2) to immediate posttest (intervention's Time 2; WL control's Time 3).

When the immediate pretest and posttest of the intervention and WL control condition were compared, statistically significant but small Time x Group interaction effects were observed for the CRIES-13, $F(1,140) = 7.86, p = .006$, partial $\eta^2 = 0.04$, and DSRS, $F(1, 142) = 5.19, p = .024$, partial $\eta^2 = 0.04$ (see Table 12). LSD comparisons revealed a significant reduction in the CRIES-13 in the intervention condition, $t(140) = 3.37, p = .001$, but not in the WL control condition, $t(140) = 1.13, p = .262$. A similar pattern was observed for the DSRS, with significant reduction in the intervention condition, $t(142) = 2.24, p = .027$, but not in the WL control condition, $t(142) = -0.72, p = .473$. These results suggest that only children in the intervention condition reported significant reductions of PTSD and depression symptoms even though children in the WL control condition also received the same intervention. A large group effect was observed on the SDQP, $F(1,124) = 146.38, p < .001$, partial $\eta^2 = 0.16$. Figure 6 illustrates the differential intervention effect on the outcome measures.

Table 10

Comparisons of Intervention and WL Control Conditions on the Outcome Measures at Time 1 and Time 2

Outcome		<i>n</i>	Main effect of time	Partial η^2	Main effect of group	Partial η^2	Interaction Effect	Partial η^2
CRIES-13	Intervention	43	$F_{1,154} = 8.69^{**}$	0.14	$F_{1,154} = 1.14$	0.02	$F_{1,154} = 3.09$	0.04
	Control	37						
DSRS	Intervention	44	$F_{1,155} = 8.76^{**}$	0.11	$F_{1,155} = 0.05$	0.01	$F_{1,155} = 5.20^*$	0.07
	Control	37						
HSCL-37A	Intervention	44	$F_{1,155} = 1.83$	0.10	$F_{1,155} = 0.01$	0.01	$F_{1,155} = 0.03$	0.00
Internalising	Control	36						
HSCL-37A	Intervention	44	$F_{1,155} = 0.22$	0.00	$F_{1,155} = 0.99$	0.03	$F_{1,155} = 0.25$	0.01
Externalising	Control	36						
SDQP	Intervention	38	$F_{1,133} = 10.62^{**}$	0.18	$F_{1,133} = 0.06$	0.00	$F_{1,133} = 0.28$	0.00
	Control	32						
SDQP	Intervention	38	$F_{1,155} = 0.00$	0.00	$F_{1,155} = 1.49$	0.01	$F_{1,155} = 0.07$	0.00
Prosocial	Control	32						
SDQT	Intervention	44	$F_{1,145} = 0.40$	0.01	$F_{1,145} = 1.62$	0.04	$F_{1,145} = 0.52$	0.00
	Control	31						
SDQT	Intervention	44	$F_{1,145} = 1.31$	0.00	$F_{1,145} = 3.47$	0.06	$F_{1,145} = 0.03$	0.00
Prosocial	Control	31						

Note. Sample size varies across measures and time due to missing data. CRIES-13 = Children's Revised Impact of Event Scale; DSRS = Birleson Depression Self-Rating Scale; HSCL-37A = Hopkins Symptom Checklist-37 for Adolescents; SDQP = parent-rated Strengths and Difficulties Questionnaire; SDQT = teacher-rated Strengths and Difficulties Questionnaire. Robust standard errors were used in analysis with the HSCL-37A Internalising subscale, HSCL-37A Externalising subscale, SDQP Prosocial subscale, SDQT, and SDQT Prosocial subscale. The HSCL-37A Externalising subscale, SDQP, and SDQT Prosocial subscale were analysed within school and school type clusters.

* $p < .05$. ** $p < .01$. *** $p < .001$.

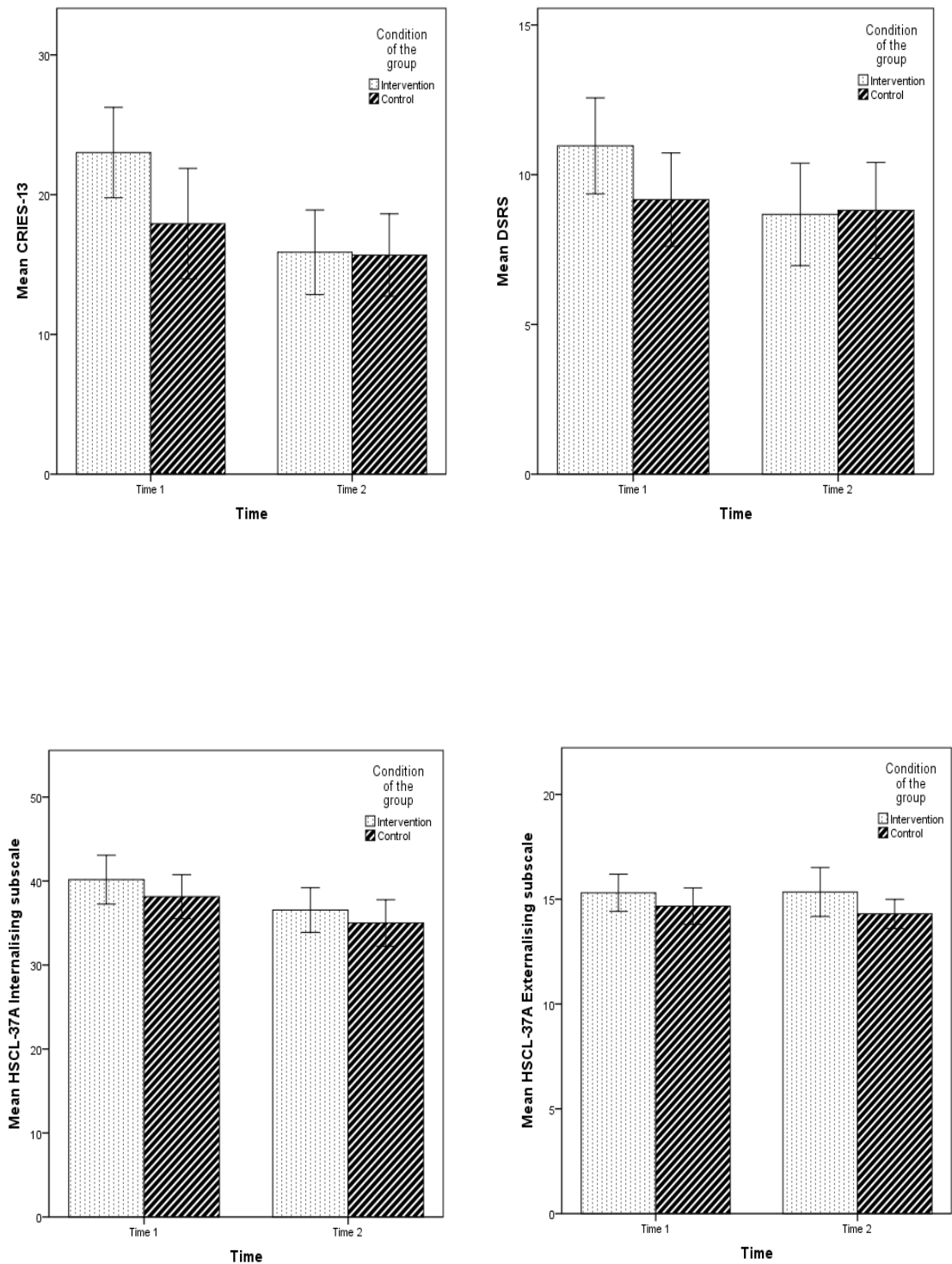


Figure 4. Comparisons between the intervention and the WL control conditions on the CRIES-13, DSRS, HSCL-37A Internalising subscale, and HSCL-37A Externalising subscale at Time 1 and Time 2 using 95% confidence interval error bars.

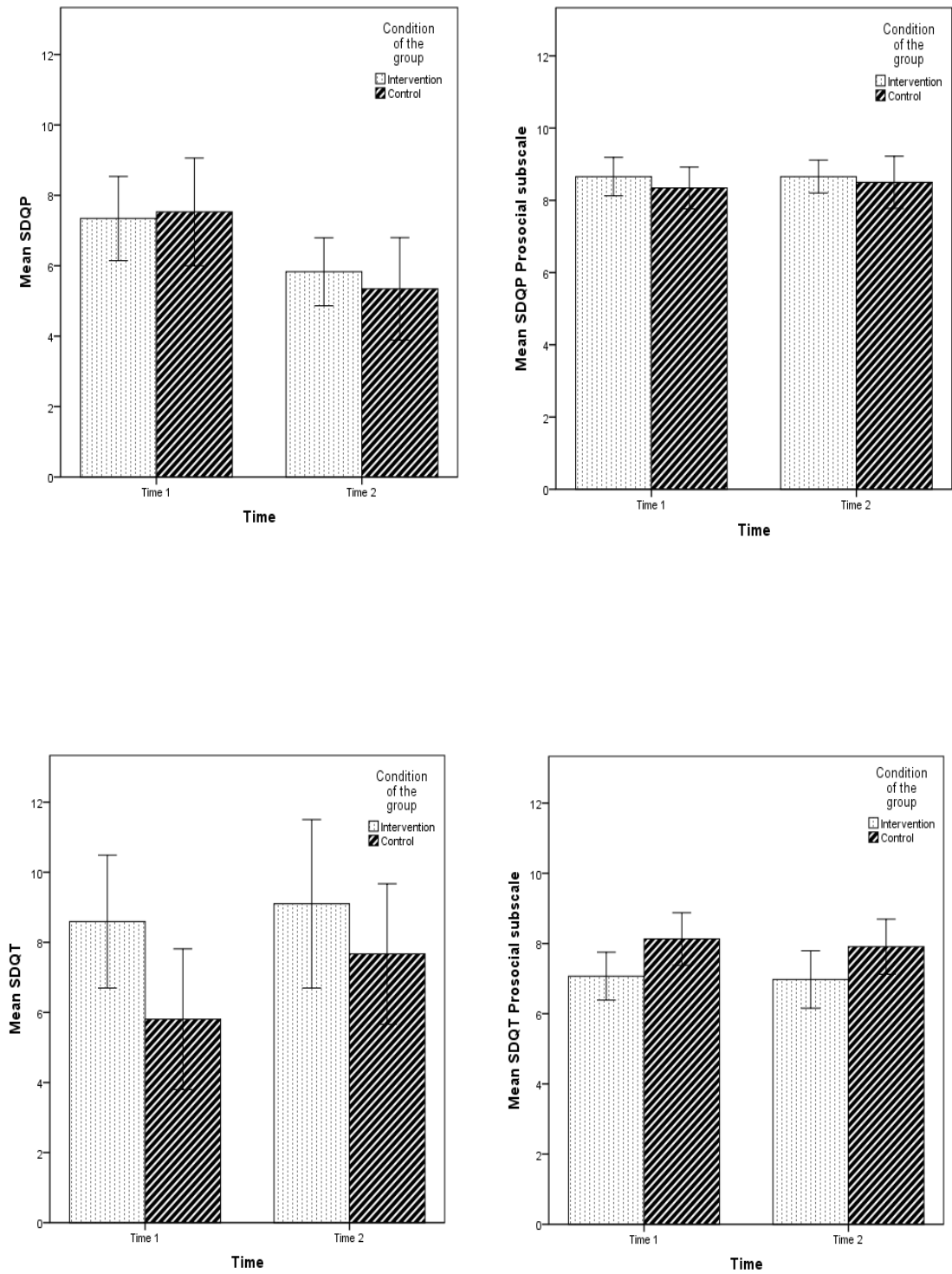


Figure 5. Comparisons between the intervention and the WL control conditions on the SDQP, SDQP Prosocial subscale, SDQT, and SDQT Prosocial subscale at Time 1 and Time 2 using 95% confidence interval error bars.

Table 11

Significance Testing For the Intervention Condition from Time 1 to Time 3

	Time 1 – Time 2			Time 1 – Time 3			Time 2 – Time 3			Simple main effect of time	Partial η^2
	Contrast estimate	SE	95% CI	Contrast estimate	SE	95% CI	Contrast estimate	SE	95% CI		
CRIES -13	7.71**	2.68	[2.40, 13.02]	10.78***	2.15	[6.52, 15.03]	3.07	1.67	[-0.23, 6.36]	$F_{2,120} = 14.03***$	0.25
DSRS	2.33**	0.74	[0.87, 3.80]	2.91**	0.83	[1.27, 4.55]	0.58	0.75	[-0.91, 2.06]	$F_{2,122} = 7.24**$	0.20
HSCL-37A											
Internalising	1.22	3.03	[-4.78, 7.23]	4.30	3.69	[-3.00, 11.61]	3.08*	1.25	[0.61, 5.55]	$F_{2,121} = 3.22*$	0.15
HSCL-37A											
Externalising	0.07	0.80	[-1.51, 1.65]	1.13	0.71	[-0.28, 2.54]	1.06***	0.09	[0.90, 1.23]	$F_{1,122} = 2.54$	0.06
SDQP	1.57	1.26	[-0.92, 4.06]	2.13***	0.24	[1.66, 2.60]	0.56	1.02	[-1.46, 2.58]	$F_{1,105} = 81.72***$	0.17
SDQP											
Prosocial	-0.04	0.13	[-0.30, 0.23]	0.05	0.27	[-0.48, 0.57]	0.08	0.29	[-0.49, 0.65]	$F_{2,105} = 0.05$	0.01
SDQT	0.36	1.51	[-2.64, 3.35]	0.22	1.08	[-1.92, 2.36]	-0.14	1.23	[-2.58, 2.30]	$F_{2,111} = 0.03$	0.00
SDQT											
Prosocial	0.06	0.06	[-0.07, 0.18]	0.68	0.52	[-0.34, 1.71]	0.63	0.58	[-0.52, 1.77]	$F_{1,111} = 1.74$	0.06

Note. Contrast estimate = estimated means difference. CI = confidence interval. SE = standard errors. CRIES-13 = Children's Revised Impact of Event Scale; DSRS = Birlson Depression Self-Rating Scale; HSCL-37A = Hopkins Symptom Checklist-37 for Adolescents; SDQP = parent-rated Strengths and Difficulties Questionnaire; SDQT = teacher-rated Strengths and Difficulties Questionnaire. Robust standard errors were used in analysis with the CRIES-13, HSCL-37A Internalising subscale, HSCL-37A Externalising subscale, SDQP, SDQP Prosocial subscale, SDQT. The HSCL-37A Externalising subscale, SDQP, and SDQT Prosocial subscale were analysed within school type and school clusters.

* $p < .05$. ** $p < .01$. *** $p < .001$.

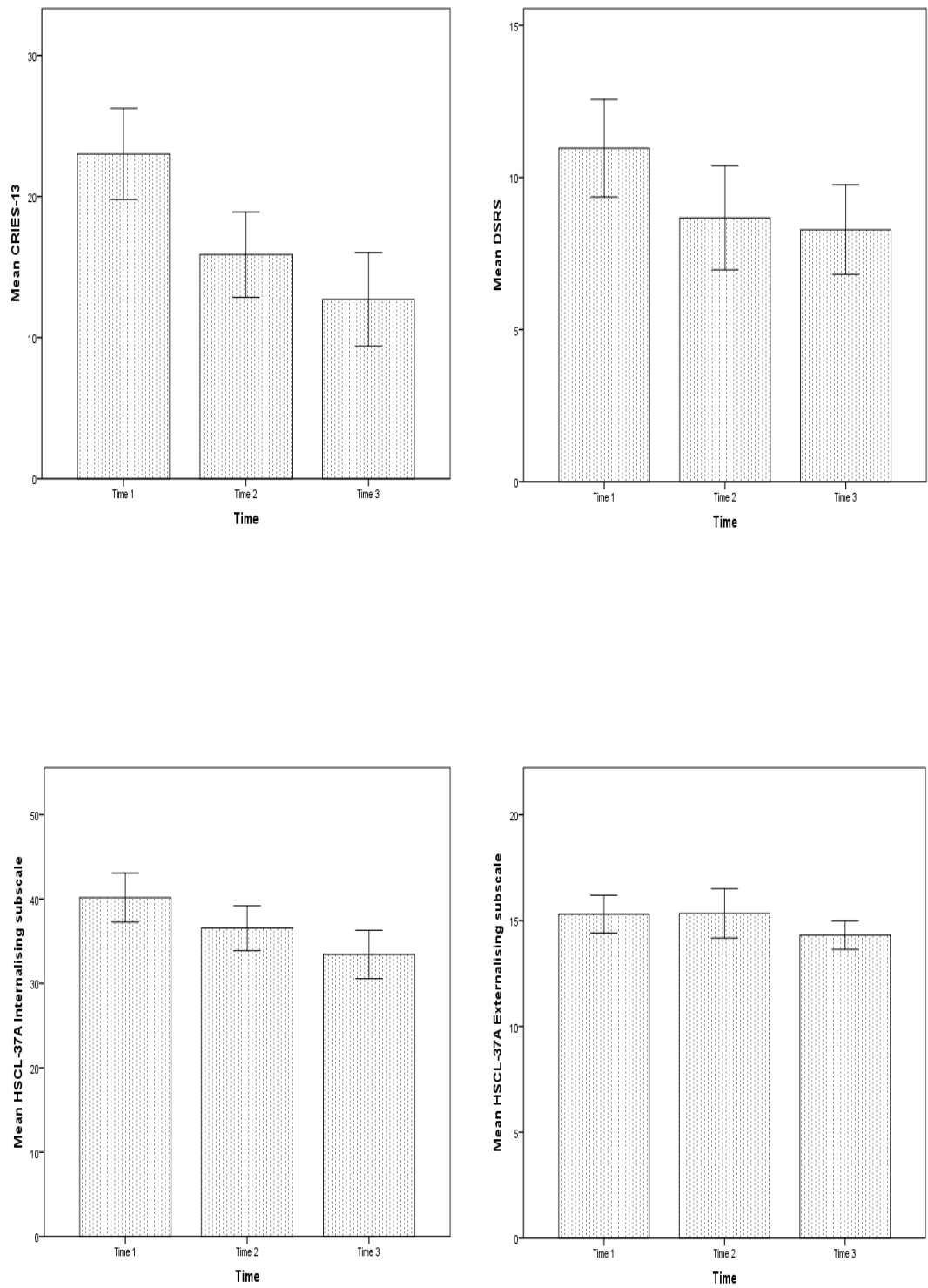


Figure 6. Changes from Time 1 to Time 3 within the intervention condition on the CRIES-13, DSRs, HSCCL-37A Internalising subscale, and HSCCL-37A Externalising subscale using 95% confidence interval error bars.

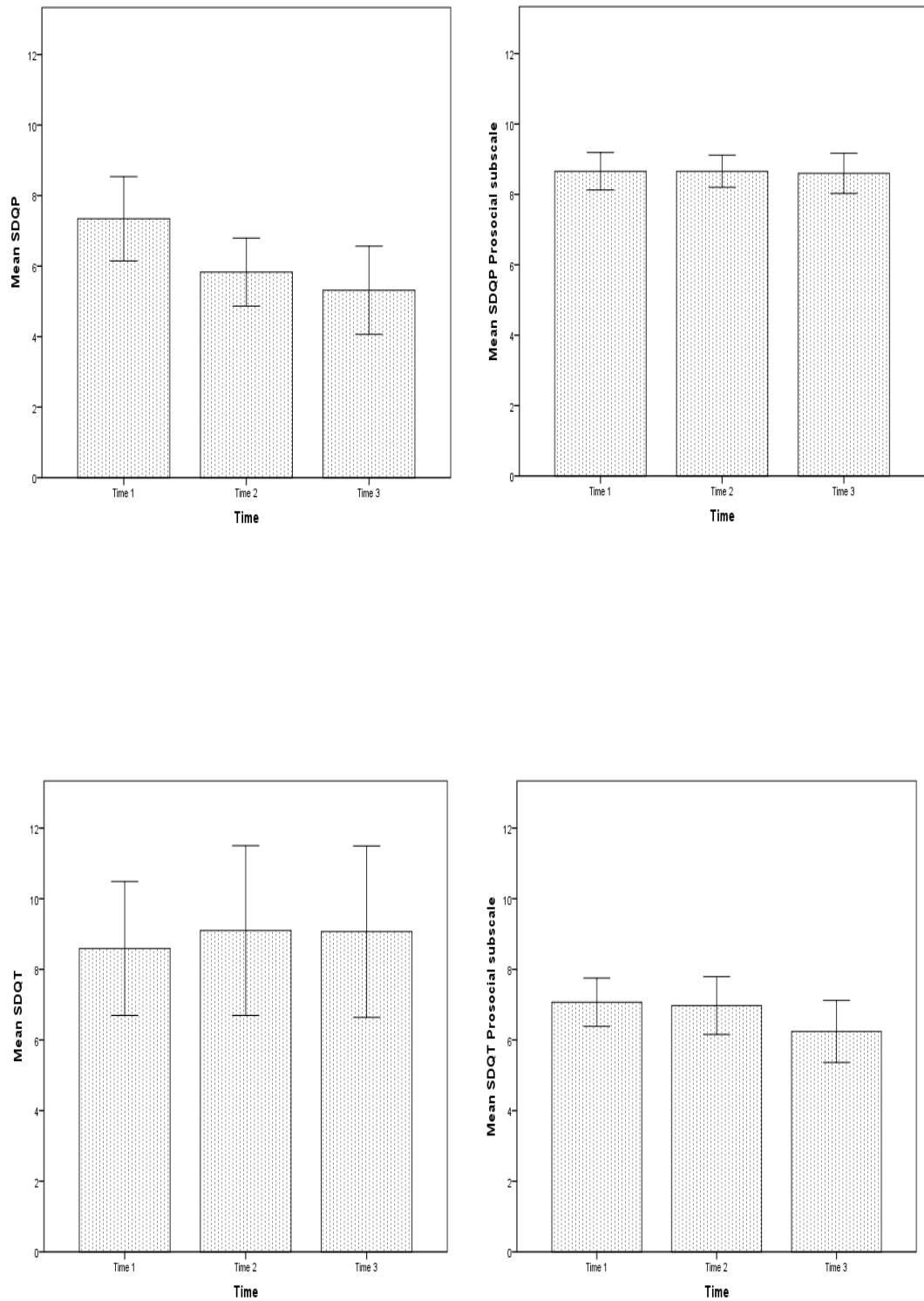


Figure 7. Changes from Time 1 to Time 3 within the intervention condition on the SDQP, SDQP Prosocial subscale, SDQT, and SDQT Prosocial subscale using 95% confidence interval error bars.

Table 12

Comparisons of Intervention and WL Control Conditions on Outcome Measures at Immediate Pretest and Immediate Posttest

		<i>n</i>	Main effect of time	Partial η^2	Main effect of group	Partial η^2	Interaction Effect	Partial η^2
CRIES-13	Intervention	43	$F_{1,140} = 8.44^*$	0.12	$F_{1,140} = 2.29$	0.06	$F_{1,140} = 7.86^*$	0.04
	Control	30						
DSRS	Intervention	44	$F_{1,142} = 0.78$	0.08	$F_{1,142} = 0.29$	0.03	$F_{1,142} = 5.19^*$	0.04
	Control	30						
HSCL-37A	Intervention	44	$F_{1,142} = 0.01$	0.01	$F_{1,142} = 0.05$	0.09	$F_{1,142} = 6.58$	0.02
Internalising	Control	30						
HSCL-37A	Intervention	44	$F_{1,142} = 0.01$	0.01	$F_{1,142} = 1.81$	0.09	$F_{1,142} = 0.00$	0.02
Externalising	Control	30						
SDQP	Intervention	38	$F_{1,124} = 2.61$	0.14	$F_{1,124} = 146.38^{***}$	0.16	$F_{1,124} = 0.12$	0.00
	Control	27						
SDQP	Intervention	38	$F_{1,124} = 1.78$	0.01	$F_{1,124} = 0.06$	0.09	$F_{1,124} = 1.71$	0.02
Prosocial	Control	27						
SDQT	Intervention	44	$F_{1,139} = 1.49$	0.03	$F_{1,139} = 4.19^*$	0.07	$F_{1,139} = 0.46$	0.04
	Control	28						
SDQT	Intervention	44	$F_{1,142} = 0.01$	0.01	$F_{1,142} = 0.15$	0.09	$F_{1,142} = 2.90$	0.02
Prosocial	Control	28						

Note. Sample size varies across measures and time due to missing data. CRIES-13 = Children's Revised Impact of Event Scale; DSRS = Birleson Depression Self-Rating Scale; HSCL-37A = Hopkins Symptom Checklist-37 for Adolescents; SDQP = parent-rated Strengths and Difficulties Questionnaire; SDQT = teacher-rated Strengths and Difficulties Questionnaire. Robust standard errors were used in analysis with the CRIES-13, HSCL-37A Internalising subscale, HSCL-37A Externalising subscale, SDQP, SDQP Prosocial subscale, SDQT, and SDQT Prosocial subscale. The HSCL-37A Externalising subscale, SDQP, and SDQT Prosocial subscale were analysed within school type and school clusters.

* $p < .05$. ** $p < .01$. *** $p < .001$.

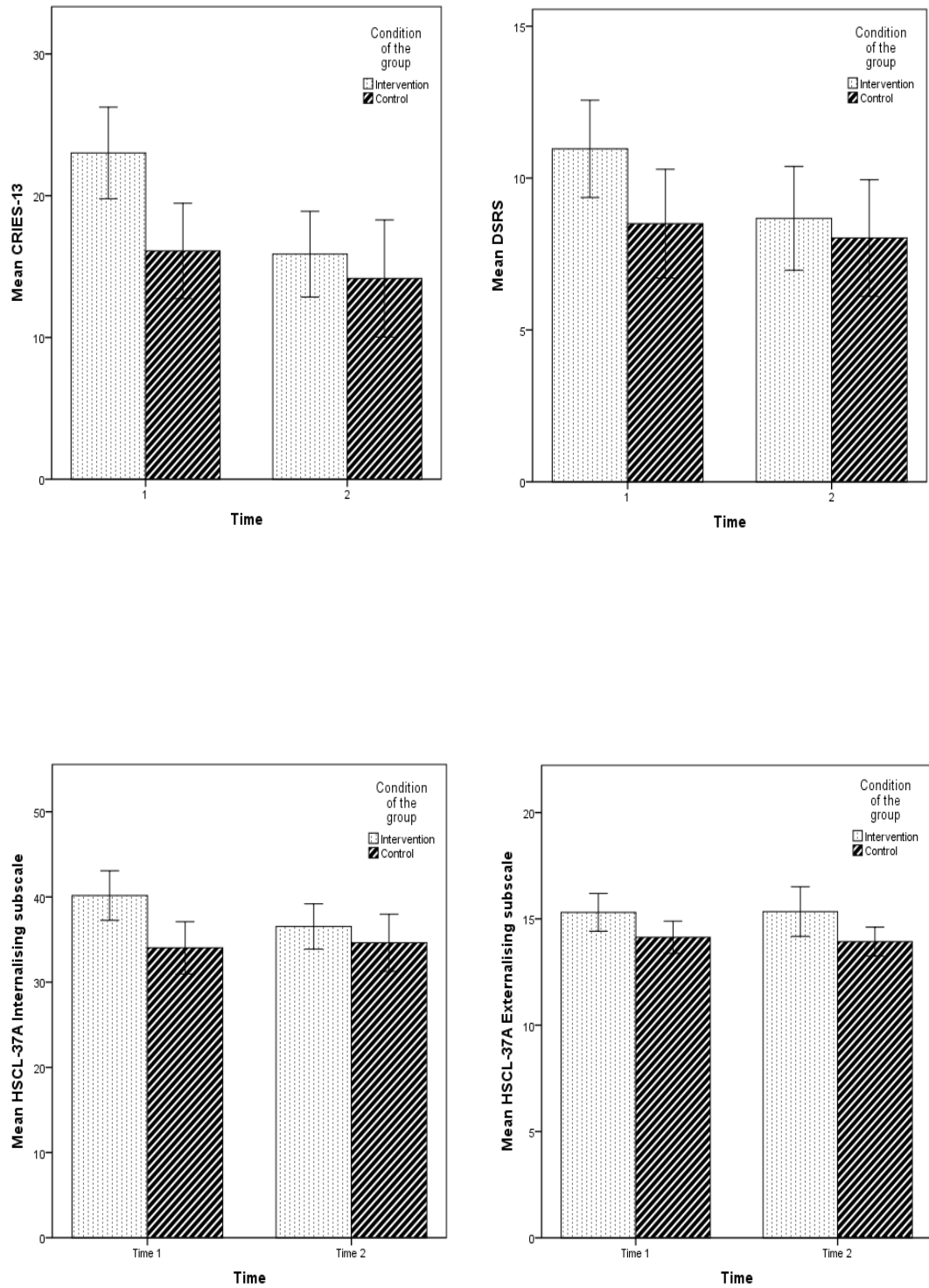


Figure 8. Comparisons between the intervention and the WL control conditions on the CRIES-13, DSRs, HSCL-37A Internalising subscale, and HSCL-37A Externalising subscale at immediate pretest and immediate posttest using 95% confidence interval error bars.

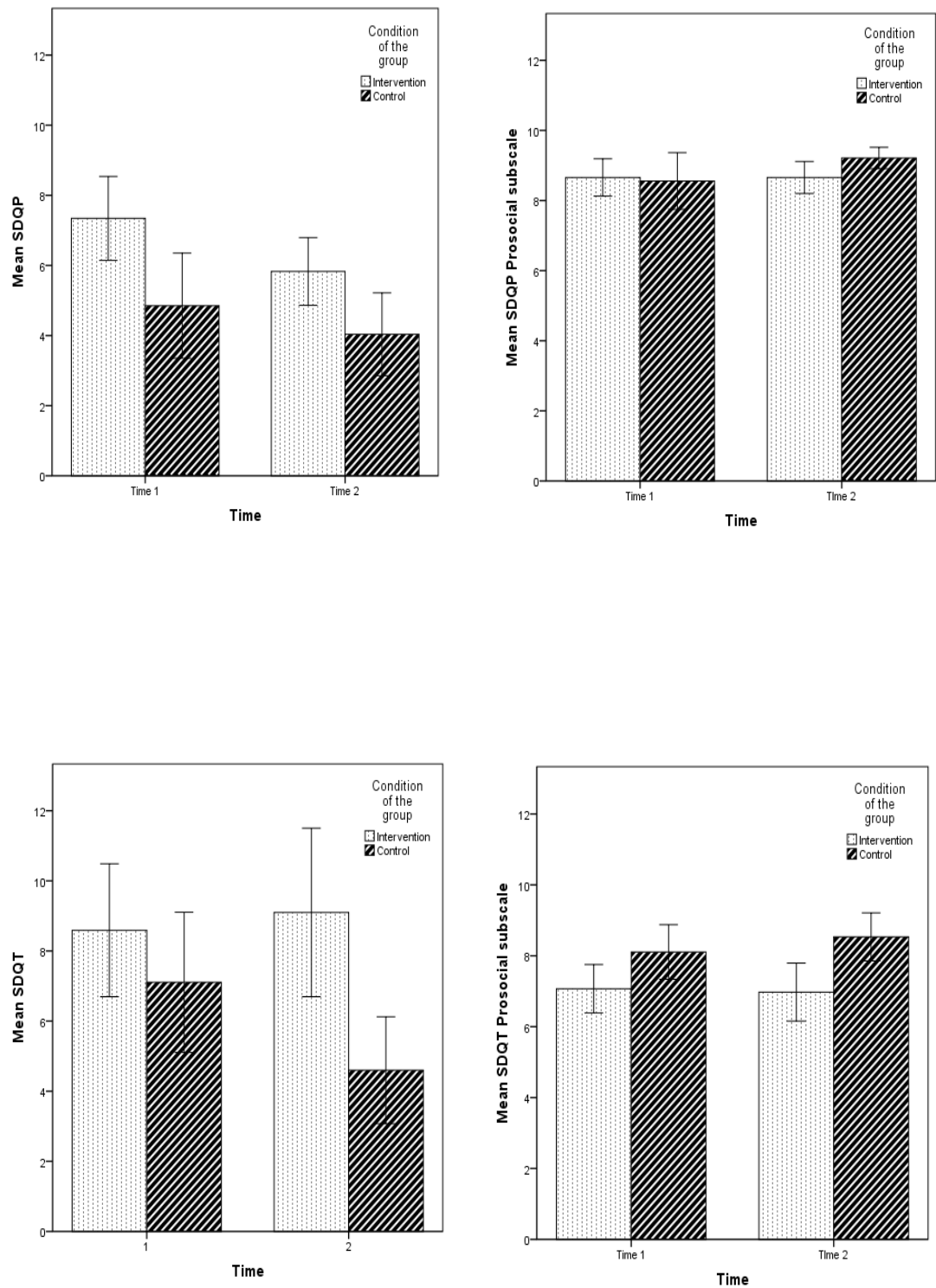


Figure 9. Comparisons between the intervention and the WL control conditions on the SDQP, SDQP Prosocial subscale, SDQT, and SDQT Prosocial subscale at immediate pretest and immediate posttest using 95% confidence interval error bars.

6.2.5 Ancillary Analysis

6.2.5.1 Reliable change.

Reliable change (RC) was calculated using the statistics and formulae in Table 13 and Table 14 respectively. Table 15 displays the proportion of participants making reliable improvement, deterioration, and not making reliable changes on the CRIES-13 and DSRS. The differences in the proportion of cases making the changes were not statistically significant between the conditions, $\chi^2(1, N = 76) = 1.76, p = .414, V = .152$, and $\chi^2(1, N = 77) = 2.10, p = .350, V = .165$ for CRIES-13 and DSRS respectively.

Table 13

Statistics Used to Compute Reliable Change using the CRIES-13 and DSRS

Statistic	Definition	Value	
		CRIES-13	DSRS
X_1	Pretest score of an individual		
X_2	Posttest score of an individual		
S_{diff}	Standard error of difference between the two test scores	7.19	3.48
S_E	Standard error of measurement of the test score	5.09	2.45
S_1	Standard deviation of the sample at pretest	11.37	5.06
r_{xx}	Reliability of the test	.80	.80
M_1	Pretest mean of the sample	20.66	10.15

Note. Reliabilities of the CRIES-13 and DSRS were obtained from Smith et al. (2003) and Birtleson (1981) respectively.

Table 14

Formulae used to Calculate Reliable Change

	Reliable change	S_{Diff}	S_E
Formula	$\frac{x_2 - x_1}{S_{Diff}}$	$\sqrt{2 (S_E)^2}$	$S_1 \sqrt{1 - r_{xx}}$

Table 15

Reliable Change at Time 2 and Time 3 for Participants in the Intervention and WL Control Conditions

	Time 2, <i>n</i> (%)					Time 3, <i>n</i> (%)			
	<i>n</i>	I	NC	D		<i>n</i>	I	NC	D
CRIES-13									
Intervention	39	8(21)	29(74)	2(5)	37	15(41)	19(51)	3(8)	
Control	37	4(11)	32(86)	1(3)					
DSRS									
Intervention	41	5(12)	35(85)	1(2)	37	8(22)	30(78)		
Control	36	2(6)	33(92)	1(3)					

Note. I = improved; NC = no change; D = deteriorated.

6.2.5.2 Programme integrity.

Programme integrity was assessed using information collected from the facilitator's log. The mean of overall satisfaction ratings across schools ranged from 2.71 to 3.38, suggesting that the average satisfactory rating of the groups was at least *somewhat successful* (Table 16). The mean percentage of content covered across the groups ranged from 84% to 100% ($M = 92.76$, $SD = 5.58$), indicating relatively high adherence to the intervention manual.

Table 16

Mean Facilitator Ratings for Each Group and Percentage of Content Completed

Group	<i>M</i> (<i>SD</i>)	Minimum	Maximum	% content completed
1	3.38(0.52)	3	4	100
2	3.13(0.83)	2	4	89
3	3.38(0.52)	3	4	95
4	2.75(0.89)	2	4	89
5	2.71(0.95)	2	4	95
6	3.00(0.82)	2	4	84
7	2.75(0.46)	2	3	89
8	3.29(0.39)	3	4	100

Facilitators' ratings on the individual sessions (Table 17) indicated that the lowest level of therapist satisfaction was 2 (*somewhat successful*). Sessions that received the highest ratings from facilitators were sessions 1, 4 and 5, with all facilitators rating the session to be *fairly successful* or *very successful*. Furthermore,

some sessions were more satisfactory than others. For example, session 4 received the highest rating ($M = 3.57$, $SD = 0.54$); whereas session 3 received the lowest satisfactory rating ($M = 2.50$, $SD = 0.53$). Many facilitators did not seem satisfied with session 3, with only half of the facilitators gave session 2 a rating of 3 or above.

Table 17

Mean Facilitators Ratings for Each Session on a 4-point Likert Scale

Session	Content	$M(SD)$	Minimum	Maximum	% > 2 ^a
1	Introduction Group rules Distraction Safe place imagination	3.50(0.54)	3	4	100
2	Psychoeducation Imagery techniques	2.88(0.84)	2	4	63
3	Auditory techniques Olfactory techniques Tapping	2.50(0.53)	2	3	50
4	Dreamwork Sleep hygiene	3.57(0.54)	3	4	100
5	Relaxation Coping self-statement	3.25(0.46)	3	4	100
6	Avoidance Fear hierarchy	3.00(0.58)	2	4	86
7	Personal hierarchy Imaginal exposure	2.86(0.90)	2	4	57
8	Traumatic memory Future planning Closing group	2.81(0.75)	2	4	63

^a Percentage of facilitators who gave a rating of more than 2.

6.3 Discussion

Study Two was designed to examine the efficacy of the TRT in reducing PTSD, depression, internalising and externalising, and improving psychosocial functioning in children exposed to war-related trauma. Results showed that after controlling for clustering effects, the intervention was effective in reducing symptoms with reliable improvement. The significant Time x Group interaction effect with a medium effect size for depression suggests that children who received the intervention had significantly greater reductions in depression symptoms from pretest to posttest compared to children in the WL. Furthermore, this improvement was maintained at 3-month follow-up. The hypothesis that children in the

intervention would experience a greater reduction of PTSD symptoms compared to children in the WL was not confirmed even though there was a trend for a greater reduction of PTSD symptoms in children in the intervention condition compared to their counterparts. Furthermore, the number of children in the intervention condition making reliable improvement at posttest doubled those in the WL control condition.

The medium intervention effect observed for depression scores suggests that the TRT is effective in reducing depression symptoms in children. Some people who experience PTSD symptoms also experience other distresses such as depression (Brackbill et al., 2009; Carrion, Weems, Ray, & Reiss, 2002; Kessler, Chiu, et al., 2005). Indeed, people who experience comorbid PTSD and another disorder have been described to be more severely impaired (Momartin et al., 2004). Depression alone is also associated with impaired functioning (Angold et al., 1998), and a heightened risk of suicide and mental health problems (Gafner & Benson, 2001; Gould et al., 1998). A potential implication of this finding is that the TRT may be used to prevent depression and associated problems in children but further research is needed to confirm this.

This is a particularly significant finding considering the brevity of the intervention. CBT interventions have been found to effectively reduce depression symptoms in children who experience traumatic reactions (Layne et al., 2008; March et al., 1998; Smith et al., 2007; Tol et al., 2008). For example, March et al. reported a medium intervention effect for depression symptoms, along with significant reductions in PTSD and anxiety symptoms, in a sample of children who completed a group CBT for PTSD. Tol et al. reported a significant and medium intervention effect for PTSD, and a non-significant and small intervention effect for depression in a sample of children who received a school-based CBT programme. Similarly, Layne and colleagues observed significant reductions in both PTSD and depression symptoms in their participants after receiving the intervention. However, it should be noted that the interventions employed in these studies are relatively long compared to the current intervention which has only eight sessions. Therefore, it seems that the brief TRT is as effective as other intensive interventions in alleviating symptoms of depression.

The absence of a significant reduction of PTSD symptoms in the intervention condition compared to the WL control condition was in contrast to our hypothesis

and was inconsistent with several earlier studies (Barron et al., 2012; Ehnholt et al., 2005). In contrast, the current results are partially supported by Quota et al. (2012). They found an overall non-statistically significant intervention effect for PTSD symptoms even though there was a significant intervention effect for girls with low dissociative experience. Furthermore, no significant changes were observed in either gender at 6-month follow-up in the study. One may argue that these findings show that the intervention is ineffective for PTSD symptoms. However, considering the significant findings of earlier studies (Barron et al., 2012; Ehnholt et al., 2005), the current findings may be better interpreted in the context of the following observations.

Within-group comparisons showed that participants in the intervention condition improved significantly in PTSD and depression from pretest to 3-month follow-up. Specifically, PTSD and depression symptoms reduced significantly from pretest to posttest and this improvement was maintained three months after the intervention has ceased. As mentioned, depression symptoms are often found to ameliorate with PTSD symptoms (e.g., Smith et al., 2007) and hence the concomitant reduction of PTSD and depression in our findings is supported by the literature. In addition, a probable delayed intervention effect, evidenced by the reductions in internalising behaviour and externalising behaviour from posttest to 3-month follow-up, was observed. Although these changes could not be attributed to the intervention effects due to the absence of a comparison group, they are in line with other studies (e.g., Smith et al., 2007) that found CBT-based PTSD intervention to reduce symptoms of internalising and externalising behaviours along with reductions of PTSD symptoms. Although the mechanism of change was not investigated in this study, it is probable that the skill-based intervention improved students' sense of mastery and subsequently led to improved mood and prosocial behaviours (Layne et al., 2001).

A probable reason for the absence of a significant intervention effect for PTSD was inadequate sample size. The current sample size ($n = 82$) was smaller than expected ($n = 153$) and it may not have had sufficient statistical power to detect the small (partial $\eta^2 = 0.04$) treatment effect for PTSD symptoms observed in this study. Small effect size is common in intervention studies involving non-clinical samples (Daunic, Smith, Brank, & Penfield, 2006; Muehrer & Koretz, 1992) and an earlier

study reported that patients with low severity of PTSD tended to improve less than patients with high severity (Foa, Riggs, Massie, & Yarczower, 1995). Larger effect sizes have been observed in other PTSD studies (Smith et al., 2007; Stein et al., 2003; Tol et al., 2003) but these studies have involved children with clinical levels of PTSD. The treatment effects reported in earlier TRT studies were mixed. Effect size was not reported in Ehntholt et al. (2005) and Quota et al. (2012) but an estimation of Cohen's d using crude data indicated a moderate to large effect size. A prominent distinction between the current study and these studies is participant inclusion. Although Ehntholt et al. and Quota et al. did not appear to specifically target children with a PTSD diagnosis, the PTSD pretest scores of the studies were relatively higher compared to the current study. Therefore, it is possible that those children made greater gains than children in the current research because of their higher baseline.

One may argue that the small effect size indicates that the intervention is ineffective. However, McCartney and Rosenthal (2000) suggested that even a small effect size could have real practical importance. An intervention that has a small effect size but is inexpensive to implement may reduce the number of children requiring intensive and expensive interventions. McCartney and Rosenthal suggested researchers evaluate effect sizes from a single study in the context of the literature through meta-analyses. One of the few meta-analyses in this field was published by Peltonen and Punamäki (2010). The authors examined the efficacy of psychological interventions for war-affected children and identified four studies that have sufficient statistical information to be analysed. These studies showed a small to large effect size but the meta-analysis could not be completed due to confidence levels that reached zero. In a meta-analysis of 19 school-based intervention programmes targeting PTSD symptoms, Rolfsnes and Idsoe (2011) estimated a medium effect size (Cohen's $d = 0.68$; $SD = 0.41$) but the meta-analysis included a diverse range of interventions, and children with a wide range of exposure history and symptom severity. Therefore, there is insufficient information in the literature to conclude whether the effect sizes observed in this study were comparable to the effect sizes found in the literature.

The comparisons between participants in the intervention and the WL control conditions on their changes from immediate pretest to immediate posttest suggest that only one group reported significant reductions of PTSD and depression

symptoms (with small effect sizes) even though both groups received the same intervention. This is surprising given that both groups received the same intervention. Several factors may have accounted for this finding. First, given that participants in the WL control condition improved over the waiting period, this may have affected the effects of the intervention on them. As demonstrated in the results, there was a significant time effect in PTSD symptoms, suggesting that both groups improved over time, even though the reduction was greater in the intervention condition. In addition, it is also probable that other variables affecting treatment outcomes were not measured or accounted for in this study. Future research is needed to try to account for potential mediator and moderators of the intervention outcomes.

As mentioned, an unexpected finding of this study was the improvements in the WL condition. Symptomatic improvements during waiting periods have been reported in some studies (Lowry-Webster, Barrett, & Dadds, 2001; Roberts et al., 2010; Smith et al., 2007). Some researchers have suggested that non-treatment-specific factors, such as expectations for change, hope, or repeated assessments, can lead to improvement of those in the WL control condition (Hardy & Stallard, 2008; Jordans et al., 2010; Smith et al., 2007). For example, Smith et al. found significant improvements in 25% of their sample after several weeks of baseline symptom monitoring. Furthermore, they found that 50% of the participants in the WL control condition no longer met criteria for PTSD diagnosis at the end of their waiting period. Similarly, Jordans et al. compared children in the WL control condition with children who received 15 sessions of psychosocial intervention and found no significant intervention effects on PTSD, anxiety, functional impairment or depression symptoms when cluster effects were considered. Instead, children in both conditions reported significant prepost improvements in hope, anxiety, PTSD, and SDQ scores. This evidence shows that children are capable of improving without specific therapeutic interventions. Given that improvements during waiting period were possible, it is speculated that the improvements may have attenuated the differences between the changes in the intervention condition and WL control condition, reducing the likelihood of detecting statistically significant intervention effects on some study outcomes.

The significant improvement of children in the intervention condition on parent-rated total difficulties score at posttest was consistent with the literature. In a pilot study, Giannopoulou, Dikaiakou, et al. (2006) found children who received the TRT to experience a significant improvement in parent-rated psychosocial functioning from pretest to posttest although the authors were not able to attribute the changes to the intervention because of the absence of a comparison group. In the current study, the parent-rated psychosocial functioning of children in the intervention condition was compared to those of children in the WL condition. However, the differences were unclear because an improvement was also reported in children in the WL condition. This is consistent with some earlier intervention studies that did not observe a significant intervention effect on parent-rated psychosocial functioning (P. Bolton et al., 2007; Tol et al., 2008).

Several factors may have contributed to such finding in the current study. First, considering that children in the WL condition reported a reduction of symptoms over time, it is likely that the functional improvements reported by their parents reflected these improvements. Second, some researchers have suggested a time lapse between symptom reduction and functional improvement (P. Bolton et al., 2007; Kazdin, 2001; Wise, 2004). Therefore, the potential functional improvements associated with the significant reduction of depression symptoms in the intervention condition may not have been captured in this study due to the short follow-up period.

Alternatively, the outcome may have reflected the common issue of poor parent-child agreement. Discrepancy between parents and children on symptom reporting has been consistently observed across studies (Björn et al., 2011; Goldin et al., 2008; Montgomery, 2008). Björn et al. found parents to underreport distress symptoms, compared to clinicians. Goldin et al. reported that parent-child agreement can be influenced by the age of the child, with stronger agreement in primary school-aged children. Children have also been found to deliberately hide their emotions from their parents so that they do not burden their parents (Dyregrov et al., 2002; Goldin et al., 2008). In the case of parents who may be experiencing psychological issues themselves, their perception of their children's problem behaviour could be distorted (Montgomery, 2008). These factors may have contributed to the absence of significant intervention effects for parent-rated psychosocial functioning and illustrate the importance of directly assessing children.

Inconsistent observations were also observed in the total difficulties scores reported by parents and teachers. While parents reported significant improvements in children's total difficulties scores over time, such effects were not reported by teachers. Inconsistent report between parents and teachers is common (Lau et al., 2004; Rousseau et al., 2007; Stein et al., 2003). In Stein and colleagues' RCT of a CBT programme, teachers reported non-significant differences between the intervention and control conditions on their behaviour, anxiety, and learning problems despite parents' and students' reports of significant improvements in the intervention condition. The authors attributed the discrepancy to several possibilities. First, a reduction of symptoms may not necessarily lead to an immediate improvement of behaviours. Second, mental health may just be one of the myriad of factors explaining classroom behaviour. Furthermore, the difficulties of observing internalising symptoms in the presence of other disruptive students in classroom may have also affected the accuracy of teachers' responses.

Another possible explanation for this discrepancy may be the expectations and cultural perspectives of the informants. Weisz and McCarty (1999) illustrated studies that repeatedly found greater externalising and internalising problems in Thai children compared to their age- and gender-matched American peers and suggested that parents from cultures (e.g., Thai) that expect children to be gentle and soft-spoken may have a lower threshold for externalising behaviour and thus reporting more externalising problems compared to parents from cultures (e.g., American) that do not have such expectations. In migrant or refugee families, parents' acculturation level may also influence their expectation and reporting pattern (Sam & Virta, 2003). Lau et al. (2004) examined reporting patterns among Caucasian, African American, and Asian/Pacific Islanders, and found different levels of rater-agreements between teachers, youth, and parents depending on their ethnic backgrounds. These studies show that informant discrepancy deserves more attention than just rater-disagreement because while it may reflect true differences in a child's presentation in different settings, it may also be partially be related to the beliefs and expectations of the informants.

The absence of a significant intervention effect for parent- or teacher-rated psychosocial functioning could also be associated with the choice of questionnaire. The SDQ was employed because it is a widely used measure of emotional and

behavioural problems, and impaired functional areas for clinical and community samples (Goodman et al., 2000). However, Goodman et al. reported that SDQ may miss children with relatively encapsulated symptoms that are not covered by the SDQ. Papageorgiou et al. (2000), who used the SDQ to assess functioning in Bosnian refugee children, found the parent- and teacher-rated SDQ scores to remain unelevated despite relatively high child-reported PTSD and depression symptoms. They contended that measures that are designed for the general population may have low sensitivity in identifying specific problems in their sample. In accordance with Papageorgio et al., the mean total difficulties scores reported in the current study were within the normal range at baseline. Hence it is probable that the SDQ was not sensitive enough to detect the specific impairments of the current sample, although the sensitivity of this measure was not examined in this study. Another concern regarding this measure was the low internal reliability ($\alpha = .54$) observed for the SDQP in the current sample which was also reported by A. A. Thabet, Stretch, and Vostanis (2000) and Barron et al. (2012). However, these findings should not discourage researchers from using the SDQ or any standardised measures. Rather, they reminded us of the importance of checking measure reliabilities in each study.

Although statistical significance is useful for the examination of group changes, it does not provide any indication on meaningful changes in individual participants. Ultimately, practitioners are interested in whether an intervention has made any significant impact in each individual participant. To assess this impact, Jacobson and Truax's (1991) reliable change was employed. The number of participants in the intervention condition making reliable improvement is remarkable. Based on the PTSD and depression scores, the number of participants in the intervention condition ($n = 8$ and $n = 5$ respectively) making reliable improvement doubled those in the WL condition ($n = 4$ and $n = 2$) and almost half of the intervention condition ($n = 15$) made reliable improvement in symptoms of PTSD at 3-month follow-up. It should, however, be noted that a small number of students reported reliable deterioration and this should serve as a warning to those intending to use this intervention in the future. Considering that this intervention is not designed to be a treatment programme, children with more severe symptoms or who did not benefit from the group format should be referred to a more intensive

intervention. Nevertheless, this is believed to be the first study to have investigated the reliable change of refugee children receiving this intervention.

Another strength of this study was the assessment of treatment integrity. Treatment integrity is an important element of RCTs because the purpose of RCTs is to evaluate treatment efficacy and incorrect or loose implementation is likely to affect treatment outcomes and conclusions (Kazdin, 2003). In this study, treatment integrity was examined using the group facilitators' session logs. A close adherence to the manual was observed in most groups which suggests that the programme was implemented as closely to the manual as possible and the absence of treatment effects on certain outcomes is unlikely to be caused by poor implementation. Nevertheless, facilitators' ratings demonstrated lower satisfaction level in some sessions which may have affected the intended treatment effects. Whilst unclear, it is possible that difficulties or complexities of session content, lack of time or poor co-operation from students may have impacted on the success of the sessions. Information such as this should be considered in future programme implementation and modification.

6.3.1 Limitations

The findings should be interpreted in light of several limitations. The intervention-waiting list control design employed in this study did not control for non-treatment specific factors. In addition, a control comparison group was absent at 3-month follow-up because the intervention had to be offered to participants in the WL condition immediately after their waiting period, due to ethical reasons. There was also a concern of attrition if the duration of the study was increased because relocation is common in recently arrived students. However, our results showed that children in the WL control condition improved during the waiting period; therefore, leaving them in waiting list for a longer period of time may not be as risky as we had anticipated. Hence, future studies that are not bounded by this concern should design a longer waiting period.

Due to limited resources, it was not possible to employ blind examiners and independent checks on treatment integrity. However, efforts were made to mitigate possible biases arising from administration procedure by employing standardised assessment tools, manualised treatment protocols, and facilitators' log. Teachers and

parents were also not blind to treatment condition. Given that an active comparison condition was not employed, it was deemed impossible to blind teachers and parents from treatment allocation. Therefore, demand characteristics and social desirability could not be ruled out from the data. As a result of limited resources to employ face-to-face interpreters and logistic constraint, most assessments with parents were conducted over the telephone using telephone interpreters when requested. Although this strategy suited parents who have busy schedule, the concern for the quality of information obtained using this method is raised by some researchers. Holbrook, Green, and Krosnick (2003) compared information acquired through telephone interviews with information acquired through face-to-face interviews and concluded that information acquired from telephone interviews tended to have stronger social desirability bias and that the respondents tended to be less motivated and cooperative. Furthermore, the presence of interpreters may affect the amount or types of information parents were willing to disclose (Björn, 2005).

Although the 2-session parent component of the TRT was not employed due to resources and logistic issues, efforts were made to involve parents in the programme, including sending a translated parent tip-sheet to parents and encouraging children to practice with their parents. Ehntholt et al. (2005) who evaluated the efficacy of the TRT for refugee children living in London have also encountered similar challenges. Excluding the parent component may compromise intervention effects because of the close relationship between child and parent mental health, and the importance of empowering parents who may be traumatised themselves and not knowing how to help their children (Dybdahl, 2001; Salmon & Bryant, 2002; Weine, 2011). Nevertheless, child-only CBT has been found to effectively decrease psychological symptoms in traumatised children and there is insufficient evidence in the current literature to argue for the supremacy of parent and child CBT over child-only CBT in the treatment of childhood PTSD (Salmon & Bryant, 2002; Stallard, 2006).

While treatment acceptability refers to the likelihood of an intervention being accepted and employed by therapists, it also refers to patient's acceptance and compliance (APA, 2002). Twenty students referred for screening declined to participate. Although these students were not interviewed on their reasons for declining, stigma might have deterred some students from the programme. This was

speculated from the difficulty in recruiting participants in most schools at the recruitment phase. For example, a student who declined to participate explained that he did not want to be seen as struggling to cope with his issues. Some students who participated in the study commented about the cost of missing out on classroom activities if they participated in the programme. This may be an area that warrants further clarification in future research.

6.3.2 Future Research

The research design may be improved in future studies. Researchers should consider comparing the intervention with a placebo control group in order to tease out therapeutic effects from non-treatment specific factors. Future studies should also consider a longer waiting period for better comparison of follow-up data. Extending the duration of follow-up may also provide an opportunity to observe changes that children go through as they cope with life stressors, including discrimination, reminder of trauma, and relocation.

Considering the heterogeneous nature of refugee populations (Rousseau & Guzder, 2008), future research is needed to establish generalisability of the current findings to other ethnic, cultural, and linguistic groups. Given that our sample was restricted to tight inclusion and exclusion criteria, future studies may include children with limited English fluency or with different ethnic backgrounds. D'Ardenne, Ruaro, Cestari, Fakhoury, and Priebe (2007) found CBT conducted with interpreters feasible and refugees with interpreters improved proportionally more than refugees without interpreters. It may also be interesting to compare the effects of the TRT for children with different ethnic backgrounds considering P. M. Barrett and colleagues' (2003) findings where migrants with different ethnic backgrounds benefited differently from a CBT-based resilience programme. The mechanism of change and treatment moderating and mediating factors may also worth exploring in future research.

Although the present results have demonstrated the efficacy of the TRT in alleviating depression symptoms, the social validity of this intervention needs to be considered. This is because clients' acceptance of an intervention will at least partially determine whether intervention will be adhered to (APA, 2002; Wolf, 1978). Aspects of the clinical utility of the intervention should also be improved. In

the *Criteria for Evaluating Treatment Guidelines* (APA, 2002), the authors considered the importance of examining treatment acceptability in relation to patient's ability or willingness to adhere to treatment regime, adverse effects, and costs associated with participation. This is in accordance with the literature which shows that children may resist mainstream services because of their unfamiliarity with the process (de Anstiss & Ziaian, 2010). In light of the diverse cultural and ethnic backgrounds of the current sample, it seems important to explore the social validity of this intervention.

6.3.3 Clinical Implications

Depression is a common disorder associated with PTSD (APA, 2002) and could lead to serious short- and long-term problems (Angold et al., 1998). The implication of the current results for practitioners working with war-affected children is that the intervention can be used as a brief and structured intervention to reduce symptoms of depression in these children. The intervention implemented in the current study lasted for eight sessions of 60 minutes each and when translated into the context of a 10-week school term, this means that the intervention can be completed within a school term. Furthermore, the brief nature of the intervention will also enable practitioners to provide the intervention to students needing such support before they relocate to another school. This is because in Western Australia, children with limited English literacy generally spend one to two years in a school that has intensive English support before enrolling in another mainstream school in their area (Department of Education Western Australia, 2010).

Another potential clinical implication is that the intervention may be used for all war-affected children experiencing depression symptoms and not limited to those experiencing PTSD symptoms. The resettlement experience can be a potentially stressful experience (K. E. Murray et al., 2008) and there is an increasing awareness in the literature that post-migration stresses, on top of pre-migration war trauma, can lead to poor mental health outcomes in war-affected children (Heptinstall et al., 2004). Considering the stresses that some of these children may experience, practitioners may employ the TRT as a structured early intervention programme to increase the resilience of war-affected children in general. However, practitioners

should be aware of other psychological symptoms and post-migration issues when working with these children.

Group interventions have several advantages over individual interventions when the demand for service is high. Instead of running multiple individual sessions, practitioners could gather children with similar needs in a group and deliver the intervention in one setting. Furthermore, delivering the intervention in schools may also increase service accessibility to children (Henley & Robinson, 2011).

Researchers have found that a number of cultural and pragmatic factors may deter parents from seeking help through a traditional medical referral system (Howard & Hodes, 2000). And school has been suggested to be an ideal setting for service delivery children who arrived in Australia with limited English are provided with specialist language services in schools or learning centres (Henley & Robinson, 2011).

Negative stigma associated with the programme articulated by several students has an implication on the way the intervention should be implemented. Considering the negative consequence this may have on student participation and group size, practitioners may first build a strong relationship with potential participants before running the intervention. If external facilitators are employed, a strong collaborative relationship with the school community may facilitate programme implementation (Berger et al., 2007; Ehntholt et al., 2005). On the other hand, implementing the intervention as part of the school curriculum by school staff members may facilitate student participation. An advantage of the TRT is that it can be delivered by non-mental health professions such as teachers (Smith et al., 2000). Therefore, teachers may be equipped to deliver the intervention to their students. The adoption and implementation of the intervention by the school community will further enhance the sustainability of the service (Scheirer & Dearing, 2011).

The significant improvements achieved by the children despite the absence of active parental participation suggest that the intervention may be implemented successfully without active participation from parents. Although parental support is recommended when working with children (Rousseau & Guzder, 2008; Salmon & Bryant, 2002), parents may not always be available. In the current study, the parallel parents' sessions outlined in the manual were not implemented because of pragmatic constraints. Rather, a parent tip sheet was sent to parents. Practitioners implementing

this intervention in the future may continue to utilise this strategy if direct parent involvement is not possible.

The results show that parents of children in both the intervention and waiting list control condition reported a significant improvement of psychosocial functioning but such improvement was not noted by the teachers. The differences in the observations reported by parents and teachers indicate the importance of obtaining multiple observations when assessing children. Practitioners should be aware of biases due to cultural factors or personal beliefs that may affect parents' and teachers' reports (Lau et al., 2004; Sam & Virta, 2003). The same caution should also be exercised when assessing children. Considering that all of the participants in this study are school-attending students, it is likely that many children continue to function despite underlying psychological distress. Hence, it may be wise for practitioners to refrain from jumping to conclusions about children's well-being before a comprehensive assessment is undertaken. In addition, practitioners should be aware of ongoing stressors such as adjustment issues, social isolation, and family conflicts that may compromise children's coping (Ellis et al., 2008; Heptinstall et al., 2004). These contextual issues should be taken into consideration when working with war-affected children.

6.4 Chapter Summary

This chapter presented the results from the first cluster RCT of the TRT in educational settings for war-affected children living in Australia. A significant medium intervention effect on depression symptom was reported and this improvement was maintained at 3-month follow-up. In addition, there was a trend with a greater reduction of PTSD symptoms in children in the intervention condition compared to children in the WL control condition. There were more children in the intervention condition who made a reliable improvement on PTSD and depression symptoms at posttest, compared to children in the WL condition. This is believed to be the first trial of the TRT to have utilised MLM for statistical hypothesis testing even though it is not the first study to have employed cluster RCT to evaluate the efficacy of the TRT. It is believed that the utilisation of MLM in the current study renders credibility and reliability to the results compared to results from other studies that have relied on a one-level analysis. Given the significance of the current findings

and the potential clinical applications, the intervention should be further considered in terms of participant satisfaction which determines whether the intervention is likely to be accepted and utilised by the community.

Chapter 7: Study Three

The Social Validity of a School-based Group Intervention for War-exposed Young Migrants: A Mixed Methods Study

Study Three was designed to assess the social validity of the TRT for war-affected young migrants resettled in Australia. The term “social validity” was coined by Wolf (1978) and introduced to the field of behavioural research because of concerns about consumers’ acceptance of, and adherence to, behavioural programmes. While this concept attracted criticism from some researchers for fear of de-objectifying scientific research (e.g., B. H. Barrett, 1987), it should be seen as an important effort to prevent researchers from making erroneous assumptions about the utility of an intervention that “after all, we are doing it to them for their own good aren’t we? And even if they say they don’t like it, we know what is best for them...” (Wolf, 1987, p. 206).

Children’s subjective experience of the TRT has been examined in a recent RCT involving war-affected children living in Palestine (Barron et al., 2012). However, considering that this is the first systematic evaluation of the efficacy of the TRT for war-affected children resettled in Australia, it is crucial to explore their satisfaction with the programme. Furthermore, efforts to understand their satisfaction with this programme are of paramount importance considering the number of refugee children in Australia and the demand for appropriate services. For example, Silove et al. (1997) found among Vietnamese refugees a high level of service dissatisfaction with mainstream mental health services compared to specialised refugee services. Howard and Hodes (2000) also found refugee children to have different referral pathways than mainstream children but found that a successful treatment outcome can be achieved if their special needs are acknowledged.

7.1 Method

7.1.1 Design

In order to explore the social validity of the programme, a mixed methods design (Creswell & Plano Clark, 2007), which essentially involves the collection and interpretation of quantitative and qualitative data to understand a research problem, was employed. To achieve this, quantitative information about the social validity of the intervention was integrated with participants' subjective experience of the intervention. A mixed methods design was adopted because it allows the expansion of the quantitative data results and provides multiple methods to explore a topic of interest (Creswell & Plano Clark, 2007). In addition, this approach allows multiple data sources to enhance results validity.

7.1.2 Participants

The sample comprised 40 students who completed at least 75% of the TRT and 58 parents from Study Two. They were interviewed based on their availability and no further recruitment was needed for this study. The sample consisted of 55% male and 45% female students ranging from 11 to 16 years of age ($M = 13.47$; $SD = 1.54$). The duration of living in Australia ranged from 1 to 7 years ($M = 2.24$; $SD = 1.78$) and the majority of students were rated by assessors as having a *fair* level of English proficiency, indicating reasonable fluency to converse and comprehend conversation. Exposure to war-related trauma and refugee camp was endorsed by the parents of the majority of students. The average number of traumatic events endorsed by students were 4.34 ($SD = 2.34$) and the mean PTSD score at screening was 22.09 ($SD = 11.52$). Most students were born in an African region, followed by Middle Eastern and Asian region. Baseline characteristics of students are displayed in Table 18.

The majority of the primary carers were mothers (69%) and carers of high school students (53%). Most carers (65%) required interpreters as indicated by the assessor-rated *poor* level of English fluency. More than half of the carers were not holding a paid employment. Almost all carers endorsed practising a religion with Christianity being the religion practised by three-quarter of the parents. The carers reported household sizes ranging from 3 to 10 people ($M = 5.81$, $SD = 1.56$) and low socioeconomic status. The mean SES decile of 3.33 ($SD = 2.39$) indicated that the

households were in the lowest 30% of the nation. The baseline characteristic of carers who participated in the study are presented in Table 19.

Table 18

Baseline Characteristics of Students in Study Three

Characteristic	<i>n</i>	%	<i>M</i>	<i>SD</i>	Range
Sex					
Male	22	55			
Female	18	45			
Age			13.47	1.54	11-16
Years in Australia			2.24	1.78	1-7
English Proficiency					
Good	8	20			
Fair	31	80			
Exposed to war					
Yes	24	60			
No	15	38			
Unreported	1	2			
Traumatic events			4.34	2.34	0-9
UCLA PTSD Index			22.09	11.52	3-49
Lived in a refugee camp					
Yes	21	53			
No	18	45			
Unreported	1	3			
Years in Camp			7.95	3.40	1-13
Birth Region					
Africa	23	58			
Asia	6	15			
Middle East	10	25			
Others/unreported	1	3			

Note. Sample size varies across variables due to missing data. UCLA PTSD Index = UCLA PTSD Reaction Index for DSM-IV. Africa = Burundi, Congo, Guinea, Ethiopia, Kenya, Sierra Leone, Sudan, Tanzania, and Uganda; Asia = Burma and Thailand; Middle East = Afghanistan, Iran and Iraq.

Table 19

Baseline Characteristics of Primary Carers in Study Three

Characteristic	<i>n</i>	%	<i>M(SD)</i>	Range
Primary carer				
Mother	34	59		
Father	21	36		
Others	3	5		
Children				
Primary school	27	47		
High school	31	53		
English fluency				
Good	7	12		
Fair	13	22		
Poor	38	65		
Occupation				
Employed	13	22		
Unemployed	44	76		
Others/unspecified	1	2		
Religion				
Christian	40	69		
Muslim	15	26		
Others/unreported	3	5		
Household size			5.81(1.56)	3-10
SES decile			3.33(2.39)	1-10

Note. SES decile = Socioeconomic status by Index of Relative Socio-economic Disadvantage, with lowest decile indicating greatest disadvantage (Australian Bureau of Statistics, 2006).

7.1.3 Measures

Quantitative and qualitative measures were used to assess social validity of the intervention. Overall programme satisfaction was assessed at the end of the intervention using the Student Evaluation Form adapted from Gent et al. (2012) and Roberts et al. (2010); and the Parent Social Validity Questionnaire developed by the author of this study. These measures were used in Study One; therefore detail descriptions can be found in section 5.1.3.1. In order to assess students' satisfaction with each intervention session, two quantitative items from the Aussie Optimism Positive Thinking Programme student booklet (Nesa & Rooney, 2004) were employed. The items "How much did I enjoy this lesson" and "How much did I learn today" are rated on a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*) (Appendix Q).

7.1.4 Procedure

This study was conducted as part of Study Two. Students completed the weekly 2-item satisfaction rating at the end of each session and this generally took less than 5 minutes. At the conclusion of the 8-week intervention, students completed the overall programme evaluation which took approximately 10 minutes. Parent programme evaluation was completed by parents on the telephone at the end of the intervention. Given that English was not the first language of most parents, telephone interpreters were used where necessary. Responses from parents were typed or written down by interviewers and the average duration of each phone call was 30 to 45 minutes.

7.1.5 Statistical Analysis

Quantitative responses were analysed using the SPSS Descriptive Statistics; while qualitative responses were transcribed and subjected to content analysis. In comparison to a quantitative approach which reduces findings to objective statistical figures, a qualitative approach is concerned with meaning and provides rich information about individuals' experience or opinions (Patton, 2002). Just as the quantitative approach is an umbrella of different statistical analyses, the qualitative approach encompasses a host of theoretical frameworks and there is no one canonical way of analysing qualitative data. In this study, content analysis was employed to analyse qualitative data collected because it analyses data by grouping similar words and themes together. Furthermore, it entails an accurate reflection of what was said without making inferences such as that of interpretative phenomenological analysis (Wilkinson, 2008). The same analysis process (section 5.1.6) used in Study One was used in this study.

7.2 Results and Discussion

The results and discussion will be presented in three sections a) student quantitative feedback which comprised the students' weekly and overall ratings of the intervention, b) student qualitative feedback which consisted of students' responses to the five open-ended questions, and c) parent feedback which comprised the outcomes from the open-ended parent interviews. The quotations are coded by a number that was designated to each interviewee.

7.2.1 Student Quantitative Feedback

A total of 40 students completed the 2-item weekly satisfaction survey that asked how much they have enjoyed and learnt from each session. The high mean (ranging from 4.10 to 4.66) and mode values indicated that students reported they enjoyed and learnt enormously from each session. In particular, students rated the last lesson which focuses on avoidance and facing traumatic memories to be most enjoyable ($M = 4.66$, $SD = 0.53$) and useful ($M = 4.53$, $SD = 0.69$). Compared to other sessions, Session 4 which involves drawing and facing nightmares was rated least enjoyable ($M = 4.32$, $SD = 0.77$) and Session 7 (overcoming fears) least useful ($M = 4.10$, $SD = 1.08$). The modes remained the same across sessions. The descriptive statistics of the weekly ratings are presented in Table 20.

Table 20

Descriptive Statistics of the Weekly Satisfaction Survey

Session		Enjoyed			Learnt		
		<i>M</i>	<i>SD</i>	Mode	<i>M</i>	<i>SD</i>	Mode
1	Introduction	4.44	0.85	5	4.21	0.89	5
	Group rules						
	Safe place imagination						
2	Psychoeducation	4.39	0.84	5	4.28	0.94	5
	Imagery techniques						
3	Auditory techniques	4.35	0.91	5	4.22	0.92	5
	Olfactory techniques						
	Tapping						
4	Dreamwork	4.32	0.77	5	4.18	0.87	5
	Sleep hygiene						
5	Relaxation	4.46	0.78	5	4.14	0.97	5
	Coping statement						
6	Avoidance	4.47	0.80	5	4.12	1.01	5
	Graded exposure						
7	Grading traumatic reminders	4.45	0.89	5	4.10	1.08	5
	Imaginal exposure						
8	Exposure to trauma	4.66	0.53	5	4.53	0.69	5
	Future planning						
	Closing group						

A better picture of the overall satisfaction, relevance/usefulness, and impact of the intervention was found in students' evaluation of the overall intervention (Table 21). Students reported looking forward to each session ($M = 4.36$, $SD = 1.10$) and being willing to recommend the intervention to their friends ($M = 3.86$, $SD = 1.18$). The lower ratings related to external comments on their changes, "My family has commented on the changes in me as a result of the programme," $M = 3.18$ ($SD = 1.67$), and "My friends have commended on changes in me as a result of the programme," $M = 3.43$ ($SD = 1.44$). Although these ratings were lower than others, they remained in the average or neutral range and have the same modes as others. At a molecular level, students rated relaxation to be most helpful ($M = 4.25$, $SD = 1.00$), followed by talking about the future ($M = 4.23$, $SD = 0.96$), and safe place imagination ($M = 4.17$, $SD = 0.97$).

Table 21

Descriptive Statistics of the Overall Intervention Evaluation

Item	<i>M</i>	<i>SD</i>	Mode
I look forward to the lesson each week	4.36	1.10	5
The lessons were easy to understand	4.23	0.91	5
The student resource was useful and easy to read	4.42	0.87	5
The program was useful in my everyday life	4.31	1.06	5
The program was helpful for getting along with others	4.40	0.81	5
The program helped me have confidence in myself			
The program helped me handle sadness	4.32	0.98	5
The program helped me cope with stress	4.29	0.75	5
The program helped me to feel more positive about everyday life	4.43	0.66	5
I talked about the program to my friends	3.44	1.42	5
My friends have commended on changes in me as a result of the program	3.43	1.44	5
I talked about the program with my family	3.72	1.32	5
My family has commented on the changes in me as a result of the program	3.18	1.67	5
I would recommend the program to my friends	3.86	1.18	5
Learning the reactions I have are normal was helpful	3.89	1.28	5
Learning how to create a safe place was useful	4.17	0.97	5
Learning about nightmares and how to deal with them was helpful	3.94	1.09	5
Learning about bad memories and how to control them was useful	3.89	1.32	5
Learning how to relax and cope with difficult situations was useful	4.25	1.00	5
Talking about my future was useful	4.23	0.96	5

7.2.2 Student Qualitative Feedback

Students' responses to the five open-ended questions were categorised into three main themes – favourite and useful activities, dislikes of the intervention, and suggestions for improvement.

Favourite and Useful Activities

Students reported a thorough enjoyment of the programme but when asked to name specific activities that they enjoyed and used the most, relaxation received the most nominations, followed by TV technique and safe place imagination.

Relaxation. More than 50% (19 out of 36) of the students identified relaxation to be their favourite activity. They commented positively on the two relaxation techniques, which were deep breathing and progressive muscle relaxation.

hm..I enjoy the radio technique and the body relaxation... because when I'm angry or when I do something, I use body relaxation and the radio technique I use it at home sometimes (920807).

Just breathing and being relaxed...To think and decision with ourselves and making our problem..no no..making our problem better you know? For if you have a problem if I think why I have a problem, where is it from, maybe it will be gone (971109).

Considering the large number of students reporting relaxation to be their favourite activity, it is not surprising that it was also the most commonly used technique. About 60% (19 out of 33) students reported using deep breathing and/or progressive muscle relaxation at home or park to calm down, to go to bed or to manage their thoughts.

the relaxation... when I'm bored or angry, to calm down myself, or to make myself go to bed (810208).

most at home I use meditation and safe place... when I get bad thoughts in my mind, I just try to relax my body using the relaxation method... the bad thoughts just come in any time, when I think about anything they just come to my mind (790210).

CBT interventions have been reported to work effectively without the component of anxiety management training (Smith et al., 2007). However, the current responses highlighted the importance and advantages of anxiety management training exercises in helping these children cope with their stresses. Therefore, the current findings are in agreement with Peltonen and Punamaki's (2010) conclusion in a recent meta-analysis that interventions that include both symptom-based techniques and bodily rehearsals are most effective for war-affected children with PTSD symptoms.

Screen technique. The screen or TV technique was nominated by 40% (14 out of 36) of the students to be one of their favourite activities.

The TV technique... it helps me to turn off the bad dreams so that I can go back to bed quickly (810208).

hand technique and TV technique [why do you like them?]Because they show you how you keep your bad dream and how you forget these things that happened in Iraq or other countries (710109).

The TV technique was one of the first PTSD-specific techniques taught in the programme. The technique involves imagining a TV screen on a blank wall, projecting unwanted images on the screen, deliberately changing the colour and speed of the film, and turning off the TV to turn off the unwanted images. The rationale behind this technique was to teach a sense of mastery over unwanted images or flashbacks. It appears that students enjoyed this technique because it helps them to control negative or unwanted images and about 35% (12 out of 33) students reported using this technique at home.

Well before I go to sleep, I use it so that I don't get any...the dream that I had the night before, and then it goes away (630807).

Safe place imagination. About 30% of the students identified safe place imagination to be their favourite activity and reported using this technique regularly.

I like safe place because it can help me in any situation at any time and other situations (790210).

I like safe place because hm when I'm really scared I imagine my safe place with someone I really love like my grandma and then like somewhere I wanna live and like my future and then I just imagine it and then after I imagine I can cope with it and then if I am sad again and I can go back to there so it's really helped me (741008).

Safe place imagination was the first imagery technique taught in the programme. It involves imagining a safe place or picture or event that makes one feels safe, relaxed, and happy. For these students, safe place imagination appeared to have helped them improve their sleep routine and mood in general.

Imagination safety place... because it's helped me to sleep easily (1060108). Yes safe place, that's all...it always help me like when I think about other stuff...always make me happy (731008).

Intrusive recollections, flashbacks, and sleep problems are common features of PTSD (APA, 2000). In this study, students reported using some of the techniques like the TV technique to “turn off” negative images and safe place imagination to “turn on” pleasant images. Although the frequency of these techniques being applied was not explored, it appears that these techniques have helped students somehow, probably through teaching alternative strategies to manage their PTSD symptoms, reducing the disturbances associated with PTSD symptoms, and improving their daily functioning. It seems that although TV technique and safe place imagination involve abstractive imagery skills that some students may be unfamiliar with, students appeared to have accepted these techniques well, evidenced by the utilisation of these techniques out of the group context.

Children who were forced to flee to another country have been reported to experience different types of stressors at different phases of their flight (Lustig, Kia-Keating, et al., 2004). Although some of them may experience PTSD, it is not the only challenge they face. For example, young refugees in Australia spoke about experiencing racism, difficulty of language acquisition and education after periods of interrupted schooling as a result of war, social and educational isolation, and concerns about family in their home country (Brough et al., 2003; Brown et al., 2006). Responses from the participants in this study suggested that the intervention

has had a positive impact on their ability to manage distress caused by both past trauma and daily stressors. A student described:

it [intervention] helped me much... It helped me to settle with frustration, getting along with friends. I used to think that fighting can solve everything, I just look for fights and I get hurt but now I can solve the problem without fighting, just go to safe place by myself (790210).

Components/activities that Students Did Not Enjoy

Apart from the few students who expressed dislike over some activities, the majority (22 out of 34) indicated that they had enjoyed all of the activities and there was no activity that they didn't like or enjoy.

We all like all of them, it's good because it helps us. That's good idea and we are sometimes scared of something we are doing that thing and they are off from us and we are not scared anymore (700109).

Aspects that a minority of students disliked included the inconvenience of attending the programme, reminder of their past, and perceived difficulties of some techniques.

[I don't like] when people are going to sports (370607).

[I don't like] talking about the bad things that happened (1011110).

It's too hard (1001109).

There was also a sense of disappointment when the techniques did not work as well as they had expected. In these cases, other strategies or extra individual sessions may be helpful.

It does, sometimes they help but sometimes they didn't (1001109).

But something doesn't want us to forget it (981110).

Suggestions for Improvement

When asked how the programme could be improved, students reported that the intervention was good enough but many suggested expanding the programme by including more sessions, techniques, and topics.

new techniques, more techniques (1040110).

you know, apart from those those relaxation techniques ya, you should help to talk about the future...what you want to do ya...if people are worried about their future, you can help the (880909).

The fact that students have requested more sessions is an indication of their enjoyment of the programme. However, it could also mean that they haven't benefited enough from the programme and needed more time to learn the techniques considering the complexities of some techniques for their developmental abilities. For example, some students requested to learn other techniques, especially easier techniques. In addition, some students suggested more in-session time to share their dreams and practice what they have learnt from the programme. Therefore, extending the duration of the intervention seems desirable.

Several students also felt that the intervention should be more inclusive and interactive. It was suggested that the intervention be implemented in the class. Given that the intervention was provided to only students who were indicative of posttraumatic reactions, it is possible that some students might have felt stigmatised or embarrassed of attending this intervention. Therefore, strategies to reduce stigma associated with this program and efforts to understand barriers to participation should be undertaken.

Other students they didn't like to come, that's why just us (101110).

On the other hand, several students felt that the intervention should comprise more group interactions which seems reasonable considering the minimal physical activities in this programme.

Like doing activities, not just sitting you know, sit and talk (101110).

Like we can watch TV, like for example like there is a kid and the dream, she had a dream and she might be using the TV technique (630807).

In summary, students expressed an overall satisfaction with the programme. Many students identified more than one technique they enjoyed and practised, and there were only a small number of students who expressed dislike over some activities. However, it was clear that the intervention should be improved by having more sessions, and being more inclusive and interactive.

7.2.3 Parent Feedback

Parents' feedback was categorised into five themes which included parental involvement, parent's appreciation, cultural compatibility, overall impression, and suggestions for improvement.

Parental Involvement

At the start of the intervention, a translated parent tipsheet was sent to parents and students were encouraged to share what they have learnt with their parents. However, it appears that only some children have discussed with their parents what they have learnt from the intervention. For example, only almost half (28 out of 58) of the parents interviewed reported being informed by their children of the intervention content, and most of these parents appeared to have a reasonable understanding of the programme content and appeared pleased with the activities.

Yes he did. He said I learn a lot of good things. I learn about the dreams, changing into good dream. I see him that he's changed, before he can't sleep, now I see him sleeping well like others (710109).

Yes, they are always telling me what they learnt and they teach me the same and they also help me with the trauma I've had (1020110).

Other parents reported being aware of their children participating in this programme but indicated that their children have only spoken to them about the programme intermittently and they did not ask their children either.

He said it's good for him but didn't say what he learns (731008).

She doesn't talk much about what she learnt but I don't ask her (991109).

Most of the students who participated in this study were adolescents and adolescents desire independence and autonomy which usually encompasses changes in parent-child relationship (Sam & Virta, 2003). Individuation occurs when adolescents experience a shift in self-perception and start to see themselves as distinctive individuals (Sabatelli & Mazor, 1985). Although connectedness with parents may persist (O'Koon, 1997), the nature of parent-child relationship may change from one characterised by authority to a more reciprocal one as adolescents develop their views and beliefs. This was reflected in Sam and Virtan's (2003) study

of intergenerational value discrepancies where adolescents embraced different priorities from their parents. Considering these changes in adolescents and parent-child relationship, one may argue that it is probably normal that students in this study did not relay the details of the intervention to their parents.

Positive Impact

Of the 52 parents who commented on this question, 12 parents reported no observable changes in their children after attending the intervention. Some parents admitted that they spent only a small amount of time daily with their children which made it difficult for them to observe any subtle changes.

Not much difference as I'm seldom home to observe unless change is big.

Overall she's a well behaved child (630807).

Sue hardly communicates with me so I've noticed no difference (160208).

On the other hand, a parent reported a deterioration of the child's behaviour which appeared to have affected the family relationships. When this student was approached for a follow-up, ongoing family conflict and anxiety about an impending school transfer were identified and these stressors appeared to have contributed to her current presentation at home.

The only thing I've noticed is that sometimes he's getting better. In fact I feel that [his sister] is more sensitive and touchy and loses temper easily. Now she's losing her temper more and can't keep calm and answer back. She doesn't talk now and spend time with herself in the room (981110).

Behavioural changes. The remaining of the parents (39 out of 52) reported positive changes in their children in the areas of behaviour, emotion, and interpersonal relationship. More than half of the parents (69%) identified behavioural improvement. Parents described their children as becoming more compliant in completing homework and house chores.

A bit better especially behaviour, doing homework with mother and listening to parents (781008).

Some parents reported a reduction of aggressive behaviour, sleep problems and headache, and an increase of self-control and nurturing behaviour. Children were also observed to be happier as a result of these changes.

No more headache and no more complaints at all (1060108).

In the past, he's the younger, he's a little aggressive to his siblings, now he's not (280407).

Emotional changes. Along with behaviour changes, some parents also reported emotional changes in the children. Twelve (31%) parents observed improved affect regulation, describing an increase of positive affect, such as feeling confident, and a reduction of negative affect, such as fear.

Nothing change but fear disappear. The only thing she notices is that he was scared to go to school but he can go to school without fear now. Moving into a new environment, he knows nothing about the environment or people but now he has no fear of such. He's getting confident (731008).

biggest changes is the fear/nightmares now gone especially Ali can sleep by himself, not scared anymore (290407).

Social changes. Seven (18%) parents described their children as having more friends, kinder to other children, getting along better with parents, and having more confidence to play with others.

Yes, they are less fearful now, there's a big changes. They teach their younger siblings what they've learnt from the programme. And they now are able to play in the same areas they used to play with the brother who passed away last year. They are more social now and can play with other kids (530707).

Yes, not that much. He's become mature a bit not like before. Like he's not fooling around like before. He's sleeping a lot. More happy. We get along better (800208).

Parent's Appreciation

Apart from one parent who reported that she did not appreciate the amount of time it took her to understand the programme, most (27 out of 33) parents commented favourably on their experience with the programme. When asked

specifically what appealed to them, parents highlighted the positive impact of the programme on their children's emotion and behaviour.

To be honest with you, I'm very comfortable with the programme, the kids like the programme and it's good (1001109).

Being taught important things about feelings (110210).

I think most important to encourage them and keep them away from the memories, especially from fighting (360606).

It also appears that some parents perceived the indirect impacts of the intervention on their children's relationships with their friends and significant others.

When I tell them to do things, they respond quickly, has given me a lot of strength (290407).

Well I personally like the programme since I see the kids learn how to cope and socialise with other kids and I'm quite happy with this (1020110).

It is worth noting that although this intervention was designed to reduce psychological symptoms in children, it has somehow had a flow-on effect on to their parents. Just as parental and familial factors can serve as a protective or risk factor for child mental health (Moscardino et al., 2010), our finding seems to suggest that children's well-being can also affect the well-being of their parents. In fact, literature has shown the contagion effects of distress and negative emotions from one family member to the other. Children of mothers with high anxiety level have been shown to experience high anxiety level as well (L. Murray, Creswell, & Cooper, 2009) and longitudinal studies have shown that children's life satisfaction in the first year can affect their parents' mental distress in the subsequent year (Powdthavee & Vignoles, 2008). Therefore, one would expect that the indirect positive impact of the intervention on parents would improve their well-being and empower them to support their children although this was not examined in the study.

Cultural Compatibility

Another important finding which should be highlighted is that the intervention was perceived to be culturally appropriate by parents from a wide range of cultural backgrounds. All of the 25 parents who answered this question described

the content of the programme as compatible with their culture and did not report any components that are unacceptable to them.

Sometimes culture is different but with this programme, there's no problems (610808).

Yes, it's ok with my beliefs (731008).

Furthermore, although some parents reported that talking about feelings openly is not a common practice in their culture, they found the programme acceptable and important.

I think it's compatible. There's nothing incompatible. In Burma, people don't talk about their negative feelings. The kids have experienced fires and bad things so this programme is not inconsistent with our cultures (300506).

It's good for them. When you are in Rome, you have to do what the Rome do. What you teach has nothing wrong with their culture (781008).

This appears to suggest that some parents were open to teaching their children important life skills even if the skills were not originated from their culture. This finding is crucial for the future intervention planning and implementation of the intervention for children from a varied range of cultural backgrounds because participant perceived relevance and appropriateness of an intervention is commonly associated with programme compliance and adherence (Gent et al., 2012; Halcón et al., 2010).

Overall Impression

With the exception of a parent who claimed that his child may not necessarily need the programme because she is “protected by God”, all 23 parents expressed a rather positive impression of the programme. Again, parents spoke of the benefits of the programme to their children and the family.

Seems like a good programme (630807).

It's really good to teach children about these things (110210).

as a mum, it's very helpful. Right now she and her son is open. Whatever the situations, they can talk openly. She also notice that her son's behaviour has changed, so she can have confidence in him (781008).

Suggestions for Improvement

Twenty-eight parents answered this question. While most parents (70%) expressed satisfaction and did not provide any suggestion for improvement, some parents recommended having the programme as an ongoing support for students and offering the programme to other families. Parents emphasised the importance of continuing this programme and involving partnership with parents so that students can be reminded of what they have learnt.

Tell more to the parents (150210).

If we continue running the programme, it's going to benefit our students and community, let more people know about the programme (300506).

Should not be a once off programme, should complement what parents teach and children need to be reminded (290407).

Given the overall satisfaction of the parents, it is not surprising that only very few provided suggestions to improve the programme. One may argue that the few suggestions and comments were due to the failure to involve parents in the intervention. However, it was noted that most of these parents said that they were informed of the programme content by their children. Another possibility was that parents who have limited schooling may have felt inadequate to provide suggestions. A parent commented:

I never went to school. You are educated, can make things better. I cannot say much because I didn't go to school but I think it's good, you're helping my child learn this (280405).

This is supported by the literature. In a study investigating refugees' satisfaction with health services, Silove et al. (1997) found that patients with poor English fluency tended to report greater service satisfaction but family members with higher levels of education tended to be less satisfied with services. If this were true of the participants in this study, one may hypothesise that parents in our sample whose English is poor may feel marginalised and lack confidence to judge the intervention critically and provide suggestions for improvement.

In summary, results from parent evaluation suggested the social validity of the intervention, specifically in relation to the intervention goals and outcomes. The

fact that parents did not regard the programme or its components as culturally inappropriate suggested that the programme was accepted by the families. However, it appears that the intervention may be improved by increasing parental involvement.

7.3 Overall Discussion

The aim of this study was to describe students' and parents' experience of the intervention. Overall, the results indicated that both students and parents perceived the programme favourably, evidenced by the following observations. First, the responses from the student weekly ratings and overall programme evaluation indicated a positive attitude towards the programme. Students rated highly the enjoyment level of the weekly sessions and reported looking forward to the sessions. Second, all of the parents expressed acceptance of the intervention. Similarly, the majority of students were able to identify at least one technique they enjoyed and used, and most of them indicated that they like all of the intervention components.

The current findings are consistent with the findings of a recent study that examined children's subjective experience of the TRT intervention in Gaza. Barron et al. (2012) interviewed 10 Palestinian children who received the intervention and reported that the intervention was rated positively by the children. Specifically, children reported enjoying being in the group and sharing their experiences with each other. Furthermore, students in the study reported enjoying all of the activities and wanted more sessions, which is consistent with the current findings. Taken together, the results from Barron and colleagues' study and the current study show that the TRT is enjoyed and accepted by children from a wide range of cultural backgrounds.

In general, the quantitative information (i.e., students' program evaluation questionnaire) complemented the qualitative information (i.e., open-ended interviews). For example, relaxation was rated highly both on the questionnaire and in the interviews. An exception was that although "talking about the future" was rated as a useful component ($M = 4.23$, $SD = 0.96$), it was rarely mentioned by students in the interviews. Several factors could have contributed to this discrepancy. First, students were asked "What were the activities you enjoyed the most?" and this question may have led students to nominate a specific activity or technique rather than a segment that discusses their future. It was also possible that students regarded talking about the future as useful but not necessarily enjoyable. Although this

question needs to be further clarified, both quantitative and qualitative findings suggest an overall satisfaction with the programme.

Another interesting finding from the current study is that even though more than half of the parents reported that they were not informed by their children about the weekly content of the intervention, students' responses to the item "I talked about the programme with my family" was above the mid-point of the scale ($M = 3.72$, $SD = 1.32$) which suggested that they agreed "about average" with this statement. Whilst unclear, one possible explanation for this mismatch between students' and parents' responses may be related to the students' desire to appear socially acceptable which was not measured in this study. Alternatively, it may also be partially related to the limitations of the measures and should be explored in future research.

Although some parents may not necessarily be well informed of the programme content, they were able to identify observable changes that are rather consistent with the children's feedback. However, it was noted that while parents reported observable changes in their children, students reported a rather neutral stance ($M = 3.18$, $SD = 1.65$) on the item "My family has commented on the changes in me as a result of the programme" which suggested that they agreed "about average" with this statement. Previous studies showed that parents from certain cultures do not express emotions to their children (Tingvold, Hauff, Allen, & Middelthun, 2012). However, a focus study conducted with African migrants resettling in Australia showed that migrant/refugee families do reward success and good behaviour shown by their children (Renzaho, Green, Mellor, & Swinburn, 2011). If Renzahao and colleagues' findings were relevant to the current study, which comprised 60% of African migrants, one would expect this statement to be embraced more strongly. Another possibility is that the increasing time adolescents spend away from family reduces the opportunity for parents to communicate to their children (O'Koon, 1997). If so, one would expect a higher score on "My friends commented on the changes in me as a result of the programme". The mean score of this item was 3.43 ($SD = 1.44$), slightly higher than the earlier item, which is consistent with the hypothesis that peers have a greater influence than family on adolescents. Above all, one may also consider the modes of these statements which indicated that the majority of the students agreed strongly that they friends and family have commented on their changes.

7.3.1 Limitations and Future Research

The findings should be considered in light of the following limitations which should be addressed in future studies. First, the sample size for the quantitative component was relatively small. Second, the use of a non-standardised social validity questionnaire in this study may mean that the results of this study cannot be compared directly with other investigations. However, this questionnaire was easy to administer and has been successfully used in existing evaluation studies (e.g., Roberts et al., 2010). In addition, one may also argue that the extent to which parents understood the intervention may have directly impacted upon their evaluation of the intervention. Consequently, the feedback is biased in a sense that it represents the impressions of parents who were informed of the intervention details and not representative of the views of the parents of all of the children who received the intervention. Therefore, a more systematic involvement of parents and the evaluation of their impressions are warranted.

In addition, due to limited resources, the questionnaires and semi-structured interviews were conducted by group facilitators. Therefore, students' responses may be affected by social desirability bias or demand characteristics. In addition, parent interviews were not conducted face-to-face because of logistic and financial constraints. One may argue that face-to-face interviews may be more interactive and personal. However, given that the study involved interpreters and interpreters may come from the same community as the participants, it raises the issue of confidentiality and fear of exposure if participants do not want their community to know their opinion (Silove et al., 1997). Considering these restrictions, telephone interviews were conducted using telephone interpreters recruited from an interpreting service in Perth. This alternative may lower the chances of interpreters knowing the participants since they did not meet each other although they may still recognise the voices. Although interpreters of different languages were employed, efforts were made to use the same interpreters for all participants speaking the same languages. However, relying on interpreters to translate the interviews meant that the quality of the interpretation is dependent on the experience, role, and assumption of the interpreters (Björn, 2005). A strategy put in place to prevent this was by engaging an interpreting service in Perth that employed accredited interpreters. However, in order to improve interview quality, future studies that have more resources may consider

interviewing parents face-by-face using native speakers or hiring onsite interpreters to interpret the interviews.

The findings should be interpreted in the context of the heterogeneity of the sample. For example, there were more high school students than primary school students and different percentages of ethnic groups in the study. P. M. Barrett et al. (2003) found students of different cultural backgrounds to have benefited from different programme components and hence it is possible that students of different age groups and ethnicity in this study may have had different satisfaction levels. In an earlier study conducted with refugees in Australia, higher English proficiency was also found to predict lower service satisfaction (Silove et al., 1997). Therefore, future studies should explore whether these factors moderate participant satisfaction. However, what appears apparent in the current study is that the intervention is accepted as culturally appropriate by children of a wide age range and parents from different cultural backgrounds.

Although the information collected in this study is limited and preliminary, it sets the groundwork for tailoring this intervention for this population. Schwartz and Baer (1991) suggested taking a two-step process when evaluating the social validity of an intervention or treatment. The first step involves gathering feedback and the second step entails adjusting the intervention using the information gathered in the first step. Given that information is needed to confirm the appropriateness of the intervention as well as to modify the intervention after implementation, the current data can be seen as the first step of this two-step process of modifying this intervention for this population.

7.3.2 Clinical Implications

The TRT was specifically designed for children exposed to war and the positive results from the current study show that although the intervention was developed according to the Western conceptualisation of mental health, it is suitable for children from a wide range of cultural backgrounds. This finding has a significant implication for practitioners working with war-affected children resettled in Australia because Australia receives migrants from different regions of the world (Department of Immigration and Citizenship, 2012b). The top ten regions of origin within the last decade included Iraq, Burma, Afghanistan, and Sudan. Hence, rather

than using cultural-specific interventions for each cultural group which is time consuming and almost impractical because of the absence of such interventions, the TRT may be employed with these children.

7.4 Chapter Summary

This was the first study conducted to examine the social validity of the TRT for war-affected children with PTSD resettled in Australia. Both quantitative and qualitative approaches were employed to investigate the appropriateness, usefulness, and relevance of the programme to children and their parents. Current findings from the student evaluation suggested that the sessions were enjoyable and useful, with the favourite components being relaxation, TV technique, and safe place imagination. Students reported using these techniques to regulate their mood when they were afraid or angry, when they thought about unhappy memories, or when they had nightmares. Relatedly, most parents described improved affect-regulation, pro-social behaviour, and interpersonal relationships in their children. A student who was reported to have deteriorated reminded us that some children may need more specialised assistance. While some parents were not informed about the details of the intervention, informed parents indicated that the intervention was culturally appropriate. Struggles associated with attending the intervention were also identified and future studies could consider extending the intervention, simplifying the concepts, and having a parallel parent group. This feedback shows that the intervention is likely to be clinically relevant and socially acceptable, and constitutes valuable information for future modification and planning of the intervention.

Chapter 8: General Discussion

Overview

Psychological sequelae following exposure to distressing events can be debilitating to both adults and children. A substantive body of literature has involved reports of the prevalence of, and impairments associated with, PTSD, depression, anxiety, somatic symptoms, and grief in children exposed to trauma (Dyregrov & Yule, 2006). However, a critical gap in the literature is the absence of methodological rigour in the evaluation of group- and school-based CBT interventions for war-exposed children. Therefore, the overarching aim of this research was to investigate the efficacy and acceptability of a psychosocial-educational intervention in reducing psychological symptoms in children and adolescents exposed to war-related trauma. This was achieved through a feasibility study (Study One), a cluster RCT (Study Two), and a mixed methods social validity study (Study Three). This final chapter summarises the key findings from the research and discusses the theoretical and practical implications of the findings.

8.1 Key Findings

A major finding in this research was that the school- and group-based Teaching Recovery Techniques (TRT; Smith et al., 2000) is effective in reducing symptoms of depression in war-affected children with a 3-month long-term effect. This finding suggests that war-affected children with depression symptoms can benefit from the intervention even though the intervention was designed to target symptoms of PTSD. This is a significant finding because depression is common among people who suffer from PTSD (Brackbill et al., 2009; Carrion et al., 2002; Kessler, Chiu, et al., 2005) and is associated with significant functional impairments and other mental health problems (Gould et al., 1998; Momartin et al., 2004). The practical value of this finding to practitioners and policy makers is that this intervention may be potentially used to reduce depression severity and frequency and to prevent the risk of long-term chronic depression in war-affected children.

Given that the medium intervention effect was achieved in the brief 8-session intervention, the result suggests that long interventions may not be necessary to achieve positive changes in war-affected children. Although the length of CBT interventions for war-affected children varies from study to study, longer interventions have been employed. For example, Layne and colleagues' (2008) trauma and grief intervention lasted between 14 and 17 sessions and Tol and colleagues' (2008) intervention lasted for 15 sessions. In comparison to these longer interventions, the TRT which was implemented as an 8-session intervention in this research appears sufficient to produce a significant reduction (with a medium effect size) in depression symptoms in the children. This will be a potentially cost- and time-saving initiative to practitioners and policy makers. It will also spare children from going through overly long and time-consuming interventions that yield similar effects.

The TRT consists of cognitive and behavioural techniques designed to manage PTSD symptoms such as techniques to manage visual, auditory, and olfactory flashbacks, and relaxation techniques to reduce arousal. Whilst unclear, it is possible that some of these techniques may have had an impact on depression symptoms considering the overlaps between PTSD and depression symptoms (Breslau, 2009). For example, relaxation techniques may have helped them calm down when they are anxious or distressed, and exposure techniques may have helped them face their fear. When these techniques are put in practice, they may lead to a reduction of depressive mood and behaviour, which was measured by the DSRS. Various types of challenges and stressors have been reported by refugee children resettled in Australia (Brough et al., 2003; Brown et al., 2006) and post-migration stressors have been identified to be associated with depression in refugee children (Fernando et al., 2010; Heptinstall et al., 2004). Even though the TRT was not designed to reduce the ecological stresses of the children, the skills they have learnt from the intervention may have an impact on their daily living and future outlook and this is important because some researchers have shown that managing ongoing stressors may be a more pressing issue to people recovering from trauma than reliving their traumatic memories (Nickerson, Bryant, Silove, & Steel, 2011).

There was a trend for participants who received the intervention condition to report a greater reduction of PTSD symptoms compared to participants in the WL

control condition. This trend is consistent with the literature in which trauma-focused CBT-based interventions for PTSD are consistently found to effectively reduce symptoms of PTSD in war-affected adults (Otto et al., 2003) and children (Ehnholt et al., 2005). Several probable reasons explaining the absence of a significant intervention effect on PTSD symptoms in the current research have been discussed in Study Two. Therefore, there appears to be no sufficient evidence from the current research to support the efficacy of the intervention in reducing PTSD symptoms in the current sample.

An important contribution of this research is the investigation of changes at individual levels using the reliable change index, an advancement that goes beyond the standard tests of statistical significance and effect size (Kazdin, 2001). The number of participants making a reliable change based on their PTSD (21% at posttest; 41% at 3-month follow-up) and depression symptoms (12% at posttest; 22% at 3-month follow-up) from pretest to follow-up demonstrates the effectiveness of the TRT in making meaningful changes in individuals. Previous researchers who have investigated the impact of the TRT for war-exposed children resettled in the United Kingdom have not published information about reliable change (Ehnholt et al., 2005); therefore, direct comparison cannot be made. Similarly, reliable change was not reported in the study by Giannopoulou, Dikaiakou, et al. (2006), although they reported that 90% (15 out of 17) and 100% (2 out of 2) of their participants who started with a clinical score of PTSD and depression respectively were free of the diagnosis at posttest.

One of the intervention studies involving war-affected children that have investigated reliable change was conducted by Layne et al. (2001). Layne et al. reported higher improvement rates in their study, with 35% of participants making a reliable improvement on depression scores, and 50% on PTSD and grief scores. However, direct comparison between our study and Layne and colleagues' study is difficult because their study had a different target population (15 to 19 year-old Bosnian adolescents) and a longer treatment process (20 sessions of trauma- and grief-focused group therapy). In the same way, Jordans et al. (2010) reported a greater proportion of reliable improvement on depression scores (23%) at posttest but these children had received a 15-session intervention. It may be worthwhile for

future research to investigate whether these differences are a result of dose-response relationship in therapy.

The inconsistent reports between parents and teachers in this research point to the importance of multiple informants. Parents reported a general improvement in their children's psychosocial functioning but on the same measure, teachers did not report such observations. Although biases in reporting between parents and teachers can potentially undermine true differences or create false differences that do not exist, the advantage of obtaining teacher feedback is that it informs us of the functioning of children in public situations which may not be observed by their parents.

One of the challenges of delivering mental health services for war-affected children is that most of these interventions were developed by people who are from a different culture and context from the recipients (Sonderegger et al., 2011; Summerfield, 1999). There were concerns that a mismatch between the explanatory models of the recipient and the clinician will lead to miscommunication and poor patient care (Kleinman, 1978). One of the most straight forward ways to answer this question is to ask the recipients directly. The most practical aspect of this question is whether the intervention is accepted by the recipients (Wolf, 1978). Qualitative feedback from students and their parents demonstrated a reasonably high level of satisfaction with the intervention. Results from the student ratings of the weekly sessions suggest a high level of satisfaction with the enjoyment and utility of each session.

Another important finding from the research was that parents expressed acceptance of the intervention even though it was not completely consistent with their traditional practices. Research shows that patient satisfaction is most likely when there is a concordance between patient's and practitioner's explanatory model (Callan, 1998). Whilst participant's explanatory models were not investigated in this research, it is hypothesised that refugee families who resettled in Australia were open to new experiences as a result of the acculturation process (Berry, Phinney, Sam, & Vedder, 2006) which sees an exchange of practices and attitudes with the host culture. This exchange of culture may have encouraged them to be open to new experiences that meet their needs.

Even though the intervention appears promising from empirical measures and participant subjective feedback, practitioners need to be aware of the hurdles of implementing it. In the school setting, there is always a pressure to complete the sessions within the allocated time even if the sessions started late due to timetabling issues. In practical terms, this means that facilitators had to rush through the material in order to cover what was allocated for the sessions. On the other hand, the concern of missing out on classroom activities and being seen as different from other students was raised by several students. If students feel stigmatised, recruitment and attendance will be problematic. This is probably one of the reasons recruitment was particularly difficult in some schools. These challenges were encountered by Ehnholt et al. (2006) when implementing the programme in schools in London.

The preventative nature of the TRT is likely to help students who have early psychological symptoms before a referral to an external service provider. In order to overcome the recruitment difficulties identified above, it may be wise to adopt a whole school approach with strong support from the system and staff so that students and facilitators feel supported in attending this intervention. This is consistent with Berger and colleagues' (2007) recommendation to elicit strong motivation of school personnel when implementing a school-based programme. Specifically for programme sustainability, Layne et al. (2008) illustrated the feasibility of employing school counsellors to deliver school-based interventions so that the interventions can run autonomously. The advantage of the TRT is that it can be delivered by trained facilitators who are not necessarily psychologists (Smith et al., 2000). Therefore, with appropriate training and administrative support, this intervention can be run in school by local school staff.

8.2 Theoretical Implications

Depression is commonly comorbid with PTSD (APA, 2000) but recent studies have shown that it may have a different developmental pathway from PTSD. Some researchers have found depression symptoms to subside along with PTSD symptoms and this observation has led some researchers to conclude that depression is secondary to PTSD (Barron et al., 2012; Smith et al., 2002). However, this was not supported by the current findings because the reduction of depression symptoms was not accompanied by the reduction of PTSD symptoms. Indeed, some researchers

have suggested that depression has a different developmental pathway from PTSD (D. Bolton et al., 2000; Ellis et al., 2008; Sack, Clarke, & Seeley, 1996).

Using a sample of refugee children resettled in London, Heptinstall et al. (2004) reported that while both pre- and post-migration traumas associated significantly with PTSD, only post-migration trauma associated significantly with depression. Similarly, in a sample of Somali children, Ellis et al. (2008) found that trauma associated more strongly with PTSD than with depression and both disorders were predicted by different post-migration factors. A clearer illustration of this complicated relationship was reported in Fernando and colleagues' (2010) study. Fernando et al. found that daily stressors such as abuse and deprivation significantly mediated the relationship between war trauma and distress. Similar findings are reported in the adult literature. In a study involving Bosnian refugees resettled in Australia, PTSD was predicted by threat of life but comorbidity between PTSD and depression was predicted by threat to life and traumatic loss (Momartin et al., 2004). These findings suggest that depression may be predicted by different factors and may have a different developmental pathway from PTSD. If this is true, it is not surprising that the significant reduction in depression in current research was not accompanied by a reduction in PTSD symptoms.

It is perhaps not surprising that the intervention, originally developed to reduce symptoms of PTSD, was effective in reducing depression symptoms. According to the cognitive model of PTSD, persistent negative appraisals of trauma and symptoms contribute to negative emotions and maladaptive coping strategies (Ehlers & Clark, 2000). Subsequently, changes in trauma-related appraisals have been found to mediate the effects of CBT treatment on PTSD symptoms (Smith et al., 2007). Similarly, depression is generally believed to be caused by depressive schema that lead to negative cognitions and a reduction of negative cognitions has been found to mediate the treatment effects of CBT interventions on depression symptoms (Garratt, UIngram, Rand, & Sawalani, 2007; N. K. Kaufman, Rohde, Seeley, Clarke, & Stice, 2005). Considering that the TRT comprises cognitive re-structuring and relaxation, it is possible that these skills led to a sense of mastery, and a reduction of negative cognitions and hopelessness. Conversely, it is possible that trauma-related misappraisals require more intensive exposure sessions to change and hence significant changes were not found for PTSD symptoms.

Whilst unclear, it is possible that non-treatment specific group processes may have also contributed to the reduction of depression symptoms in the current research. Several studies in the post-trauma literature have suggested that positive social support facilitates recovery and coping (Almqvist & Broberg, 1999; Moscardino et al., 2010). On the contrary, a lack of social support has been found to predict traumatic reactions (Kuterovac-Jagodic, 2003) and internalising problems (Betancourt, 2005). Social support may be destroyed as a direct result of war or due to flight. Refugee children who resettled in a new country may have lost their original support network due to relocation and many have had to establish new social support networks. Furthermore, some researchers reported that some children do not share their emotions or concerns with their parents for fear of burdening them (Goldin et al., 2008). On the contrary, group therapy has been found to create group cohesion, mutual learning, and normalising of common experiences among the members (Oei & Browne, 2006; Tucker & Oei, 2007; Yalom, 1995). In a CBT programme, Oei and Brown found perceived expressiveness, independence, and leader support predicted reductions in depression symptoms. Therefore, it is hypothesised that similar group processes may have operated in the current research, but further investigation is warranted.

Evidence-based CBT interventions for PTSD employ a combination of cognitive and behavioural techniques to achieve habituation to anxiety, and reduce misappraisals and dysfunctional coping strategies (Bryant, 2011). Although the TRT was designed specifically to target intrusion, arousal, and avoidance symptoms of PTSD, it is probable that it was too brief for participants to process and relive their trauma. The group-based CBT intervention employed in March et al. (1998) comprised 5 sessions of exposure therapy; whereas only 3 sessions were spent on exposure therapy in the current research. A dose-response relationship between therapy and outcome illustrates an optimal treatment dosage required to achieve meaningful changes and in a review, Hansen, Lambert, and Forman (2002) observed that an average of 13 to 18 sessions (across treatment types) are generally needed for 50% of participants to improve in psychotherapy.

However, the two studies of the TRT that reported positive intervention effects had employed a slightly shorter intervention schedule (Barron et al., 2012; Ehnholt et al., 2005) compared to the current study. This is surprising considering

that longer interventions may give participants more time to understand and practice the information. A possible explanation for the absence of an intervention effect for PTSD in this research may be related to the characteristics of the participants in that the participants were too focused on adjusting to the new environment that they simply did not want to, or have time to, process their traumatic experience. In addition, symptom reductions may occur after the intervention has ceased, when participants had more time to process their experience. However, due to the absence of a control condition at 3-month follow-up, it was impossible to detect such changes. Therefore, future research should include a control group at follow-up and employ a longer follow-up.

Another theoretical implication observed in this research is that although exposure therapy is an important component of PTSD interventions, anxiety management techniques play an important role as well. Pitman et al. (1991) suggested that exposure therapy can be initially distressing and people who do not have the skills to regulate their emotions may not be able to tolerate such experience. As such, some clinicians have suggested developing emotion regulation skills such as relaxation in patients before asking them to relive the traumatic memories. The empirical evidence of the benefit of this approach was demonstrated by Hinton, Hoffman, Pollack, and Otto's (2009) study of Cambodian refugees with PTSD and panic attack. They found that improvement in the ability to regulate emotions plays an important role in the reduction of PTSD symptoms. In this research, qualitative feedback from participants highlighted the importance and attractiveness of anxiety management techniques. Even though it was unsure whether the techniques helped them to engage in the subsequent exposure exercises in the intervention, they appear to have had a positive impact on the children and supported earlier studies that have included anxiety management training in the treatment of childhood PTSD (Layne et al., 2008; March et al., 1998).

8.3 Strengths and Limitations

This research involves an improvement of a number of problems related to previous studies but suffers from several shortcomings. The primary strengths and limitations of this research are in relation to the research design, participants, intervention protocol, and assessments. These are discussed now.

8.3.1 Research Design

The *APA Presidential Task Force on Evidence-based Practice* (Levant, 2005) defined evidence-based practice as practices that integrate research evidence with clinical experience and client preferences. The task force also recognises RCTs as the most sophisticated research design when it comes to investigating treatment efficacy (APA, 2002). The results of this RCT enable us to conclude that those who received the intervention improved significantly compared to those who did not. However, due to the absence of a placebo control group, the influence of non-treatment specific factors could not be ruled out. Furthermore, although the maintenance of posttest improvements at 3-month post-intervention was demonstrated in the current research, a longer follow-up may provide a better outlook of the intervention. Follow-ups longer than 3 months have been reported in treatment studies for childhood PTSD (e.g., Layne et al., 2008; Ertl et al., 2011) and the longest follow-up for the TRT was 4 years in a natural disaster study (Giannopoulou, Dikaiakou, et al., 2006). Therefore, a longer follow-up with a control comparison group would enhance the understanding of the effects of the intervention.

Another unique contribution of this research is the employment of the sophisticated MLM statistical procedure to analyse the data. Whereas previous studies have utilised conventional analysis of variance which is restricted by a number of statistical assumptions, this research drew on the capacity of a more advanced statistical tool to account for clustering effects and manage missing data (Tabachnick & Fidell, 2007). Baldwin, Murray, and Shadish (2005) reviewed recent studies published in prominent journals and found more than 50% of the significant findings reported in the 33 group treatment studies became insignificant when nested data were taken into account. Therefore, the employment of MLM in this research reduces the risk of Type I error and provides a more accurate analysis of the data.

8.3.2 Participants

In the *Criteria for Evaluating Treatment Guidelines* (APA, 2002), the influence of treatment setting on the effectiveness of an intervention was raised. Researchers were advised to exercise caution against assuming a treatment proven effective in one setting would perform equally effectively in another setting. In order

to increase the ecological validity of the findings, this research was conducted with the expected end-users (war-affected students), implemented in real world (schools), and involved all possible informants (students, parents, and teachers).

It is possible, however, that the internal validity of the study may have been compromised due to the heterogeneity of the sample. Study Two comprises participants from diverse ethnic backgrounds and P. M. Barrett et al. (2003) found ethnicity to moderate treatment outcomes, with students from different ethnic backgrounds benefitting differently from the intervention because of their cultural adjustment. They reported that compared to Chinese children, former-Yugoslavian children affiliate better with the Australian culture and thus are advantaged in practising the intervention's social principles. Although it would have been ideal to recruit students from a specific ethnic and cultural background, it would not be a true representation of the heterogeneous refugee population in our nation and educational system.

Another challenge of this research is the limited English proficiency of some of the children. Although children included in this research were assessed as having basic conversational English skills, their ability to understand the information may still be limited by their English language ability. In addition, due to the small number of participating schools ($n = 11$), the schools were matched on school type (private vs. public) and level (primary vs. secondary) but not perfectly matched on size and socioeconomic status, increasing the chances of non-equivalence between conditions. However, school effects were included in the MLM statistical analysis and therefore one may argue that these effects have been accounted for even though a larger pool of schools would be ideal.

8.3.3 Intervention Protocol

A major strength of this research was the employment of a standardised measure to assess treatment integrity. Most of the studies that evaluated TRT, except Barron et al. (2012), did not report treatment fidelity. This is likely to be the first published treatment integrity of the TRT conducted in Australia. Treatment integrity is the degree to which a treatment plan was adhered to. Assessing treatment integrity should be seen as an important part of RCTs because incorrectly or loosely implemented interventions are likely to have a direct impact on the treatment

outcome (Kazdin, 2003). In a review of psychosocial interventions published in six prominent journals, only 4% of the studies adequately published treatment implementation procedures which included conceptualisation, assessment, evaluation, and reporting of results (Perepletchikova et al., 2007). Perepletchikova and colleagues' finding is surprising considering that these figures were obtained from the most influential journals in the field of psychology and psychiatry. Steps taken in this study to establish treatment integrity included the author receiving a three-day manual training from William Yule and Atle Dygrove. The co-facilitators (Master's and PhD psychology students) also received a one-day manual training from the principal investigator and were provided with the treatment manual. Treatment integrity was assessed using standardised quantitative checklists by facilitators, and numerical outcomes were reported for individual sessions and overall programme integrity. The close adherence (an average of 93% across groups) suggested that the intervention had been implemented as closely to the manual as possible.

A possible limitation of the intervention implementation is the absence of the parallel parent sessions suggested in the intervention manual (Smith et al., 2000). Although involving active participation from parents may be beneficial, engaging parents from culturally and linguistically diverse backgrounds is not without challenge. It was our intention to deliver the parallel parent component but consultation with key stakeholders suggested that participation was likely to be too low due to various logistic and pragmatic issues. The difficulty of engaging parents has been reported in the literature. Schottelkorb et al. (2012) compared the efficacy of play therapy and CBT in reducing PTSD symptoms in a sample of refugee children (aged 6 to 13 years) and reported that the number of parent sessions in both interventions were lower than intended. Commitment and language barriers were identified to be the contributing factors. Nevertheless, participants in our research made significant improvements without their parents and past research has recorded the efficacy of child-only CBT in decreasing psychological symptoms in traumatised children (Stallard, 2006). Therefore, the child-only TRT is effective.

8.3.4 Assessment

This is also the first published RCT of the TRT to have used child-, parent-, and teacher-reports across all assessment points, providing a comprehensive assessment of the intervention effects. Poor inter-rater agreement between children and their significant others is consistently reported in the literature (e.g., Björn et al., 2011). Accordingly, discrepancy between children, parents and teachers in the reporting of trauma exposure and symptom severity was evident in this research but the wealth of information collected from these informants nonetheless provided a more comprehensive evaluation of the intervention outcomes.

The questionnaires used in this research are accepted as appropriate for use with refugee children by the *Children and War Foundation* and research groups with United Nations Children's Fund (e.g., Layne et al., 2008; Smith et al., 2002). These measures are consistent with the criteria of ideal assessment tools proposed by Barenbaum et al. (2004). Barenbaum et al. suggested that ideal tools should involve direct contact with the child, are quick and easy to administer, and are sensitive and valid. Most of the questionnaires, except the SDQP, demonstrated satisfactory internal reliability in the current sample.

The utilisation of these measures was built upon research findings that the manifestation of symptoms is similar across cultures (Hinton & Lewis-Fernandéz, 2011). One may argue that symptom manifestation and healing are likely to be affected by one's culture and beliefs just like somatic symptoms may be a cultural expression of distress in Asian children (Mollica et al., 1997). Even though somatic symptoms were measured in our outcome measures, it is probable that other culture-specific experiences may not have been captured by the outcome measures. It is also acknowledged that these measures were not specifically developed for refugee children exposed to war trauma and detailed clinical interviews may provide a better assessment and formulation for each child.

8.4 Recommendations for Future Research

Considering the current findings and the literature, recommendations are made in relation to suggestions for future efficacy studies, translation of research into practice, and intervention implementation.

8.4.1 Efficacy research: Placebo Controlled Trials and Longer Follow-up

The current pretest, posttest, and 3-month follow-up design enables a direct comparison between children who received the intervention and those who did not receive the intervention. However, a replication of current research comparing the intervention with a placebo control condition may control for non-treatment specific factors, allowing clearer interpretations to be made. A longer follow-up with a control comparison group would also enable the long-term effects of the intervention to be investigated. High attrition rates commonly found in the literature (Ertl et al., 2011; Giannopoulou, Dikaiakou, et al., 2006; Layne et al., 2008; March et al., 1998) can be taken into account when calculating sample size prior to recruitment. With the number of evaluation studies mushrooming over the last decade, it may be time for researchers to move from comparing efficacy of different treatment models to investigating the mechanism of change underlying the treatments as demonstrated in Tol et al. (2010) and Quota et al. (2012).

In addition, participants in this research were restricted by narrow inclusion and exclusion criteria. A replication of this research in children who have limited English proficiency, and children from other ethnic and cultural groups is warranted because refugee children constitute a heterogeneous population (Rousseau & Guzder, 2008). For example, social adjustment, and cultural values and beliefs are likely to affect the way children from a specific cultural background benefit from an intervention (P. M. Barrett et al., 2003). Furthermore, refugee children and adolescents who did not travel with a parent were excluded from this research and these children have been reported to have a higher risk of psychological problems (Bean, Eurelings-Bontekoe, & Spinhoven, 2007). Therefore, future studies should investigate the generalisability of the current findings to other children.

8.4.2 Assessment and Implementation

The scarcity of culturally sensitive measures that tap into the experience and expression of emotional dynamics in refugee children from culturally and linguistically diverse backgrounds remains a limitation in the literature (Barenbaum et al., 2004). Although the measures selected in this research have been used with refugee children with good psychometric properties, they were not designed to examine culture-specific expression and the meaning of distress. Therefore, future

studies may explore these variables to better tailor the intervention to meet their culture-specific needs. In future studies, treatment integrity would be better assessed if the group sessions were audio- or video-taped. It is hypothesised that this strategy would reduce biases, enable inter-rater comparison to be made, and facilitate training of programme facilitators. The assessment of the social validity of the intervention may also be improved by using standardised questionnaires that have established psychometric properties.

Future studies may extend the number of sessions or the length of each session and include more developmentally appropriate games. Extending the intervention may give students more time to better understand the techniques, as some students indicated that some techniques are more difficult than others. The TRT has been trialled as a 5-session (Barron et al., 2012), 6-session (Giannopoulou, Dikaiakou, et al., 2006), 7-session (Ehnholt et al., 2005), or 8-session course (Quota et al., 2012) that lasted for 1 to 2 hours each session. Depending on the developmental stage of the students, younger students who have less advanced cognitive abilities may also require more assistance in understanding the information. For example, when implementing the TRT among young children (aged 8 to 12 years), Giannopoulou, Dikaiakou, et al. (2006) delivered the intervention for a total of 6 weeks and 2 hours each week. As suggested by students in Study Three, short games can also be incorporated into the core activities to make the session more enjoyable.

Future studies should also consider investigating the additional benefits of greater parent involvement. Results in Study Three show that some parents were not aware of the content of the intervention and it is hypothesised that they were unable to help their children to practice the skills they had learnt from the intervention. In fact, some parents expressed a desire to have greater involvement in this learning process and hence future studies should implement the 2-session parent component or facilitate greater collaboration with parents. Greater collaboration with parents may also facilitate parents' ability and willingness to provide feedback.

8.4.3 Translation into Practice: Effectiveness Research and Sustainability

Future research may involve the translation of current research into effectiveness research and practice. The *APA Presidential Task Force on Evidence-*

based Practice (Levant, 2005) postulates that effectiveness research which studies the effects of interventions delivered in naturalistic settings is crucial for the establishment of the ecological validity of interventions. However, there remains a gap between research and practice (Glasgow, Lichtenstein, & Marcus, 2003). This research may be considered a partial effectiveness study given that it was tested within a population and setting of the intended end-users. However, well-designed studies to disseminate current findings into large-scale demonstration projects in broader communities at state and national levels are warranted.

In the meantime, the sustainability of this intervention in the community setting should also be considered. Sustainability or maintenance refers to the continuation of a programme or activity for the continued benefits in community (Scheirer & Dearing, 2011). The sustainability of an intervention can be affected by the characteristics of the intervention (effective, adaptable, and inexpensive to implement), and organisational factors (e.g, funding, and alignment between problem recognition and proposed intervention). On the other hand, insufficient training, inadequate infrastructure in organisation, and a lack of time and resources impede translation from research into practice (Glasgow et al., 2003). The ease of implementation by non-mental health professionals may facilitate the implementation of this intervention in schools or the community. However, ongoing support from the organisation where the intervention is delivered would equally play a very important role in sustaining the programme (Fagan, hanson, Hawkins, & Arthur, 2009).

8.5 Clinical Implications

Results from the current research demonstrate the efficacy of the TRT in reducing depression in school-aged war-affected children resettled in Australia. Australia is a country that receives refugees from a wide range of countries (Department of Immigration and Citizenship, 2012a). Therefore, having an intervention such as the TRT that is able to effectively reduce depression symptoms in such a short period of time and is culturally relevant to people from a wide range of backgrounds would substantially reduce the demand placed on service providers. The finding adds to the existing collection of evidence-based interventions for the

promotion of the emotional and behavioural outcomes of war-affected children and increases the resources available to practitioners working with war-affected children.

Group intervention has been suggested in the literature as an appropriate intervention framework for war-affected children because of its therapeutic and practical benefits (Ehntholt et al., 2005; Jaycox et al., 2009; Yalom, 1995). Based on the current results, practitioners may employ this intervention in schools as an early intervention for children from diverse backgrounds who experience depression symptoms. Current experience suggests that ethnic- or gender-specific groups may not be necessary. However, in light of possible ethnic conflicts in the countries of origin, it may also be wise for practitioners to ensure that children attending the same group do not feel intimidated by each other due to their backgrounds. Furthermore, practitioners may also consider extending the length of the intervention, adding developmentally appropriate games into the intervention, and make every effort to engage parents throughout the process even though significant improvements were reported without active parental involvement in this research.

The manualised format and ease of implementation (e.g., can be implemented by teachers or nurses) means that the intervention can be delivered in a timely fashion by trained facilitators to those needing it rather than having to wait for mental health specialists. However, as shown in Studies Two and Three, a few students deteriorated in their symptoms over time; therefore, practitioners should be aware of the preventative nature of the intervention. In addition, the TRT was not designed to be a treatment programme and was not tailored to individual needs. Hence, those who have more severe symptoms or whose symptoms did not ameliorate after the intervention should be referred for more intensive intervention. In the same vein, the intervention may not be appropriate for children who are not distressed and referral to intervention should be based on children's needs and presentation.

The discrepancy between student-rated, parent-rated, and teacher-rated treatment outcomes in Study Two demonstrates the common problem of inter-rater discrepancy and highlights the importance of considering information from multiple informants when conducting screening for service uptake or treatment evaluation. Considering that all of the participants in this research were attending school despite their symptomatology, the internal distress of these children could be easily

overlooked if comprehensive assessment was not conducted. Furthermore, given that English may not be the first language of many refugee parents, facilitators may also consider employing interpreters or bilingual health workers to facilitate the assessments.

On the other hand, practitioners should be aware of potential challenges during the initial set up of the group. First, while forming a group is easy in schools with high numbers of refugee students, negative stigma associated with the intervention reported by students in Studies One and Three may reduce the attractiveness of the intervention. In addition, the cost of participation, such as missing out on classroom activities, which was articulated by some students, should be negotiated with school authorities so that students participating in the intervention do not feel discriminated from other students.

8.6 Closing Words

To my knowledge, this is the first RCT of the TRT with war-affected students conducted in the Australian educational setting. The current research has made a unique contribution to the understanding of the efficacy of group CBT-based intervention in promoting the mental health well-being of war-affected migrants in early to late adolescence resettled in Australia. Even though the impact of this intervention on PTSD was non-statistically significant, the significant reductions of depression symptoms and the acceptance of the intervention by students and parents show that the TRT can be used to effectively promote the well-being of war-affected children.

Each year, approximately 10,000 visas were granted under the Australia's Humanitarian Program and children under the age of 18 account for about half of the entrants (Department of Immigration and Citizenship, 2012a). In 2009 and 2010 alone, 13,799 humanitarian visas were granted and two-thirds of the offshore resettlement programme visas were granted to migrants from regions exposed to war-related trauma such as Iraq, Afghanistan, and Sudan (Department of Immigration and Citizenship, 2012b). The number of people who arrive by water, known as irregular maritime arrivals, has also risen significantly in the recent years, from 690 people in 2008 and 2009 to 5,175 people in 2010 and 2011, and 20% of the irregular maritime arrivals in 2010 and 2011 were children. Even though not all of

these children will struggle to cope with the psychological impacts of pre- or post-migration trauma or stressor, children who were affected by more severe traumatic events and experienced more risk factors may benefit from this intervention. Considering the different needs and levels of severity of children exposed to trauma, it is probable that this intervention may be used as one of the approaches in a multilayer tier system of care that consists of services that range from resilience building programs to specialised services for indicated students (Jordans et al., 2010; Layne et al., 2008; K. E. Murray et al., 2010).

While there are many methodological shortcomings in current literature which makes it difficult to draw a final conclusion about the best intervention approach for culturally diverse war-affected children, we need to provide the best service we can based on the information we have at hand. It is hoped that the contributions made by this research will further advance our knowledge to providing the best services we could to this underserved population. The current state of research may be aptly illustrated by Luft's (1969) Johari window which presents areas of known and unknown information as a result of awareness and disclosure. While it is true that there is still so much "unknown" in the field, we can seek the answers from research and our clients, and rely on these pieces of information to increase our competency to serve them.

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Appendices

Appendix A

DEMOGRAPHIC INFORMATION

	ABOUT YOUR CHILD												
Please answer the following questions in relation to your child.													
If you have two children participating in this study, please complete a questionnaire for each child.													
1. Your child's name: _____													
2. Your child's date of birth: _____ (date)/ _____ (month)/ _____ (year)													
3. What Year is your child in? Year _____													
4. Child's sex: (please circle one number)													
<table border="1" style="display: inline-table;"><tr><td>Male</td><td>1</td><td>Female</td><td>2</td></tr></table>		Male	1	Female	2								
Male	1	Female	2										
5. (a) Child's country of birth: _____ If 'Australia', please go to (c)													
(b) What is your child's visa category? _____													
(c) How many years has your child lived in Australia? _____ year/s													
(d) What ethnic group do you think he/she identifies with? (please specify) _____													
6. How would you rate his/her proficiency in speaking English: (please circle one number)													
<table border="1" style="display: inline-table;"><tr><td>Very good</td><td>1</td><td>Fair</td><td>3</td><td>Very poor</td><td>5</td></tr><tr><td>Good</td><td>2</td><td>Poor</td><td>4</td><td></td><td></td></tr></table>		Very good	1	Fair	3	Very poor	5	Good	2	Poor	4		
Very good	1	Fair	3	Very poor	5								
Good	2	Poor	4										
7. What other languages/dialects does he/she speak, read, and write? (please specify) _____													
8. (a) Is your child currently receiving help for difficulties related to behaviour/strong emotions/difficult feelings? (please circle one number)													
<table border="1" style="display: inline-table;"><tr><td>Yes</td><td>1</td></tr><tr><td>No</td><td>2</td></tr></table>		Yes	1	No	2								
Yes	1												
No	2												
⇒ Go to Question (b)													
⇒ Go to Question 8													
(b) If yes, what type of problem/s? (please specify) _____													
9. (a) If your child is not currently receiving help, has he/she ever received help for difficulties related to behaviour/strong emotions/difficult feelings? (please circle one number)													
<table border="1" style="display: inline-table;"><tr><td>Yes</td><td>1</td></tr><tr><td>No</td><td>2</td></tr></table>		Yes	1	No	2								
Yes	1												
No	2												
⇒ Go to Question (b)													
⇒ Go to Question 9													
(b) If yes, what type of problem/s? (please specify) _____													
10. Has your child been exposed to violence/bad things to do with war in your country? (please circle one number)													
<table border="1" style="display: inline-table;"><tr><td>Yes</td><td>1</td></tr><tr><td>No</td><td>2</td></tr></table>		Yes	1	No	2								
Yes	1												
No	2												
11. (a) Did your child spend time in refugee camps? (please circle one number)													
<table border="1" style="display: inline-table;"><tr><td>Yes</td><td>1</td></tr><tr><td>No</td><td>2</td></tr></table>		Yes	1	No	2								
Yes	1												
No	2												
(b) If yes, how long? (please specify) _____ year/s													

ABOUT THE PRIMARY CARER

12. Are you the child's father or mother? (please circle one number)

Father	1	Mother	2
--------	---	--------	---

13. (a) Your country of birth: _____ If 'Australia', please go to (c)

(b) How many years have you lived in Australia? _____ year/s

(c) Have you always lived in Western Australia? (circle one) Yes No

(d) What is your postcode? _____

(e) How would you rate your proficiency in speaking English: (please circle one number)

Very good	1	Fair	3	Very poor	5
Good	2	Poor	4		

14. What other languages do you speak, read, and write? (please specify) _____

15. What is your religion? (please specify) _____

16. Your occupation in your country: (please tick one box)

Manager/Administrator	<input type="checkbox"/>	Plant/Machine operator/Driver	<input type="checkbox"/>
Professional (e.g., doctor, teacher)	<input type="checkbox"/>	Labourer/Unskilled worker	<input type="checkbox"/>
Para-professional (e.g., teacher's aide)	<input type="checkbox"/>	Agricultural worker	<input type="checkbox"/>
Tradesperson (e.g., hairdresser)	<input type="checkbox"/>	Unemployed outside home	<input type="checkbox"/>
Clerk/Receptionist/Typist	<input type="checkbox"/>	Student	<input type="checkbox"/>
Salesperson/Personal service worker	<input type="checkbox"/>	Other (please specify)	<input type="checkbox"/>

17. Your current occupation: (please tick one box)

Manager/Administrator	<input type="checkbox"/>	Plant/Machine operator/Driver	<input type="checkbox"/>
Professional (e.g., doctor, teacher)	<input type="checkbox"/>	Labourer/Unskilled worker	<input type="checkbox"/>
Para-professional (e.g., teacher's aide)	<input type="checkbox"/>	Agricultural worker	<input type="checkbox"/>
Tradesperson (e.g., hairdresser)	<input type="checkbox"/>	Unemployed outside home	<input type="checkbox"/>
Clerk/Receptionist/Typist	<input type="checkbox"/>	Student	<input type="checkbox"/>
Salesperson/Personal service worker	<input type="checkbox"/>	Other (please specify)	<input type="checkbox"/>

18. How many hours are you employed each week? _____ hours

19. Please list people currently living in the home, as follows:

Age	Male	Female	Relationship to child (e.g., brother, aunt)
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____
_____	1	2	_____

-----THANK YOU-----

Appendix B

The UCLA PTSD INDEX FOR DSM IV – Adolescent Version is unable to be reproduced here due to copyright restrictions.

Appendix C

**The Revised Child Impact of Event Scale is unable to be reproduced here due to copyright restrictions. Available from the Children and War Foundation
<http://www.childrenandwar.org/>**

Appendix D

The Birleson Depression Self-Rating scale is unable to be reproduced here due to copyright restrictions. Available from the Children and War Foundation <http://www.childrenandwar.org/>

Appendix E

**The Hopkins Symptoms Checklist-37A is unable to be reproduced here due to copyright restrictions. Available from the Foundation Centrum '45
<http://www.centrum45.nl/>**

Appendix F

The Aussie Optimism Social Life Skills Program 2000 Student Evaluation Form is unable to be reproduced here due to copyright restrictions.

Appendix G

The Student Evaluation Form is unable to be reproduced here due to copyright restrictions.

Appendix H

The Strengths and Difficulties Questionnaire P 11-17 is unable to be reproduced here due to copyright restrictions. Available from <http://www.sdqinfo.com/>

Appendix I

1. Did your child tell you what he/she learns in this program? Did you help your child practice at home?

2. Do you notice any changes in him/her since he/she started coming to the Coping Well Program? If yes, please specify.

3. What do you like about this program?

4. What don't you like about this program?

5. How has this program helped your child?

- a. In the program, we taught children to imagine a safe place when they are scared. Do you think teaching children to think about a safe place when they're scared is useful? **YES (very /somewhat useful) NO**

- b. Do you think teaching children to relax their body and to breathe slowly when they're scared is useful? **YES (very /somewhat useful) NO**

- c. Do you think talking to children about their feelings and learning how to control their feelings is useful? **YES (very /somewhat useful) NO**

- d. Do you think teaching children to manage their nightmares is useful? **YES (very /somewhat useful) NO**

- e. Do you think telling parents about what their children is learning in the program is useful? **YES (very /somewhat useful) NO**

- f. Will you recommend this program to other children? **YES NO**

6. Is this program compatible/consistent with your cultures/beliefs? **YES (very /somewhat) NO**

7. How can we make this a better program?

Appendix J

The tip sheet for parents is unable to be reproduced here due to copyright restrictions.

Participant Information Sheet- Primary Carers

Dear Parent/Carer,

My name is Irene Ooi and I'm a Ph.D. student from the School of Psychology at Curtin University of Technology. I am conducting a program that aims to promote children's social and emotional development and to teach children useful skills in managing their feelings and behaviors.

This program is supported by your **school's principal** and we would like to invite you to take part.

What does participation in the research project involve?

First, your child will answer some questions about him- or herself. After that, your child **may** be invited to participate in the program. If your child is not suitable for the program, I will call you to let you know. If your child is suitable, I will invite your child to join the group this or next term. If your child is chosen to join the group next term, I will call you before the end of this term to check on how your child is feeling. This program will be run by me at the school for **1 hour** a week for a total of **8 weeks**. **Refreshment** will be provided after each session. At the end of the program, your child will be asked to answer the same questionnaire, as well as, what he/she thought about the program. We will interview your child again after three months using the same questionnaire. We will also ask for feedback from your child's teacher.

If your child is invited to join the program, we ring you twice, one at the beginning of the program and the other at the end of the program. This is because we would like you to tell us a bit about your child and to tell you what your child is learning in the program. We will also ring you 3 months after your child has completed the program to see how he/she is doing.

Does my child have to take part?

No. Participation in this research project is entirely voluntary. If you do not want your child to take part in the project, or your child does not wish to take part, that is fine. It will not affect your child's education in any way.

Your child will also be provided with a letter from us that we encourage you to discuss with him/her.

What if either of us was to change our mind?

You or your child can change your mind at any time within the minimum 5-year storage period of the research data. All contributions made to the project will be destroyed unless explicitly agreed to by you.

If the project has already been published at the time you and your child decide to withdraw, your child's contribution that was used in reporting the project can not be removed from the publication.

What will happen to the information collected, and is privacy and confidentiality assured?

Information that identifies anyone will be removed from the data collected. The data is then stored securely in a locked cabinet in the School of Psychology at Curtin University of Technology. The data will be stored for a minimum period of 5 years, after which it will be destroyed.

The identity of your child and the school will not be disclosed at any time, except in circumstances that require reporting under the Department of Education's *Child Protection* policy, or where the research team is legally required to disclose that information.

The data will be used only for this project, and will not be used in any extended or future research without first obtaining explicit written consent from you and your child.

It is intended that the findings of this study are reported using average scores; therefore, no individual name or information will be published in the reports.

How will this study benefit my child?

Some experiences are hard to forget and this may affect your child's memories, concentration, and school performance. Since this program is designed to help your child understand his/her experiences, and to deal more effectively with the experiences, it may **help your child feel happier and do better at school.**

Are there any risks associated with participation?

Your child may become slightly distressed at some points throughout the program **if** he/she chooses to talk about his/her upsetting experiences or memories. However, this program is designed to help children feel better about themselves; therefore, your child is likely to feel happier after the program. I am also a registered psychologist and I have worked with children and teenagers, so I will be there to support your child. If your child is found to be very upset, we will contact you and the school principal immediately so that appropriate action can be taken.

How do I know that the people involved in this research have all the appropriate documentation to be working with children?

Under the Working with Children (Criminal Record Checking) Act 2004, people undertaking research that involves contact with children must undergo a Working with Children Check. Evidence that these Checks are current for each member of the research team who will be having contact with children has been provided to the principals. I am also happy to provide you with copies if you have any concerns.

Is this research approved?

The research has been approved by the Curtin University Human Ethics Committee (Approval Number HR 60/2008). If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au. This program has also been approved by the Catholic Education Office of WA, the Association of Survivors of Trauma and Torture, and the WA Transcultural Mental Health Centre.

Who do I contact if I wish to discuss the project further?

If you would like to discuss any aspect of this study with a member of the research team, please contact me on 9266 7143 or my supervisors, Dr Rosanna Rooney on 9266 3050 and Dr Clare Roberts on 9266 7992. If you wish to speak with an independent person about how the project is being conducted or was conducted, please contact Dr Lyndall Steed on 9266 7182.

How does my child become involved?

Please ensure that you:

- discuss what it means to take part in the project with your child before you both make a decision; and
- take up my invitation to ask any questions you may have about the project.

Once all questions have been answered to your satisfaction, and you and your child are both willing to become involved, please complete the **Consent Form** on the following page (your child will also be asked to a Consent Form attached to his/her letter).

Thank you for considering! ☺

THIS IS FOR YOU TO KEEP

Participant Information Sheet- Students

Hello. My name is Irene Ooi and I'm a research student from the School of Psychology at Curtin University of Technology. I am running a group program at your school for students who have experienced stressful/difficult things in the past. To help me understand how well the program works I would like you to answer some questions and to take part in this group program.

What will I be asked to do?

First, we'll ask you to answer some questions about yourself and your experience in your country before coming to Australia, and then take part in the group program this term or next term. We will ask you these same questions again at the end of the program and three months after that. We will also ask your parent and teacher some questions about you before and after you've completed the program. When you have completed the program, we would also like some feedback about the program. This program will run for **8 weeks** and **1 hour** each week. The sessions will take place at your school during school hour. In the group you can talk about your happy and unhappy experiences, and we will give you tips on how to be relaxed and happy, to manage your unhappy memories, and to take charge of your life. The sessions will be run by me and your teacher/psychologist and there will be some drink and food after each session. Unfortunately, we are not able to run the program at all of the schools at one go, so you may have to wait for your turn. If we can't run the program at your school this term, we still want you to answer the questionnaire and then come to the program next term. If we think this is not a suitable program for you, we will let you know and you don't have to take part.

Do I have to take part?

No. You are completely free to say yes or no. You either volunteer or you don't volunteer. If you do not want to volunteer, then simply don't write your name on the space provided on the next page. It is that easy.

What if I wanted to change my mind?

If you want to take part, but then change your mind and want to stop, just let me know and you can stop right away. When you have stopped, what you have said will not be used by me unless you and your parents say that I can use it. You can change your mind at any time. However I plan to write about the group sessions in a special magazine (called a journal) so that teachers and other people who want to help people like you can also learn from what the groups did. If my story about the groups has already been published (included in the magazine) you will not be able to remove your information.

What will happen to the information I give - is it private and confidential?

Information that identifies you or anyone will be removed. The data is then locked in a cabinet at Curtin University. These records will be destroyed immediately after 5 years, unless the law requires them to be held longer. After I have collected and analysed the information, I will write about it in a book or journal so that other adults can read about it. But when I do this, I won't write or tell anyone your name but it may include some of the words you said in the group.

Will you tell anyone what I say while I am contributing to the project?

In almost all cases I won't tell anyone, it is between you and me. However, if you tell me that you have been hurt by someone lately I may have to tell someone like your teacher because the law requires me to do so. If this happens I will make sure that someone who can discuss this with you further will come to talk with you.

What are the benefits of this research for me as a student?

The program may make you feel better about yourself and help you do better at school. By participating in this project, you will also teach me and other adults the best way to help people.

Are there any risks associated with participation?

You may become a bit upset at some points throughout the program, particularly **if you choose** to talk about unpleasant things that may have happened to you or someone in the group. However, since this program has been designed to help people deal with their unhappy memories, we will teach you skills to manage these unhappy feelings.

Is this research approved?

The research has been approved by the Curtin University Human Ethics Committee (Approval Number HR 60/2008). The committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants (people like you). If you want to check that the University has approved this research, you can write to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or telephone 9266 2784 or email hrec@curtin.edu.au.

Who do I contact if I wish to talk about the project further?

Please talk about the project with your parents first. Then, if you would like to talk with me more, please contact me on 9266 7143. If, at any time, you wish to speak with a person who is not involved in the project about how something was handled, please contact Lyndall Steed on 9266 7182.

OK – so how do I become involved?

You have already discussed the project and what it means to take part with at least one of your parents, and now you get to say for yourself.

If you do **want** to be a part of the project, then please read the next page and write your name in the space provided.

This letter is for you to keep. The next page is for you to send to me. Thank you!



Informed Consent Form

- I know that I don't have to help with the project, but I would like to.
- I know I will be answering some questions about myself and **may** take part in a group program.
- I know I can stop whenever I want.
- I understand that the researchers have to contact my parent and school principal if I say or my questionnaire responses indicate that I am feeling very sad or have been hurt.
- I know that I need to write my name in the space below, before I can help with the project.

My Name: _____ Date: _____

Appendix L

The Strengths and Difficulties Questionnaire T 11-17 is unable to be reproduced here due to copyright restrictions. Available from <http://www.sdqinfo.com/>

Appendix M

The Distress Protocol for Children Who Reported Significant Distress in the Questionnaire is unable to be reproduced here due to copyright restrictions.

Appendix N

Facilitator Program Content Checklist – Session ____

School: _____

Facilitator: _____

Overall Success of the session:

Not at all successful	Somewhat successful	Fairly successful	Very successful
1	2	3	4

Activity	Tick if completed	Time spent (minutes)	Satisfaction (1-4)	Comments
1.				
2.				
3.				
4.				
5.				
6.				
7.				

1st September 2009

[Principal]
[School]
[Address 1]
[Address 2]

Dear [Principal],

Re: The efficacy and social validity of a group program for adolescents exposed to war before migrating to Australia

My name is Irene Ooi, the coordinator of a project designed to teach young people expand their coping repertoire, and I would like to invite you to consider this project. This project has been proven in other countries to have helped young people exposed to war trauma and it is conducted with the Association for Services to Torture and Trauma Survivors (ASeTTS) and the WA Transcultural Mental Health Centre, and is supported by [the department].

What does participation in the research project involve?

I would like to invite students aged 12 to 17 years who have been exposed to conflicts/war to participate in this study. Your school is one of the [number] independent and state schools in the Perth metropolitan areas invited to participate in this project. I will keep your school's involvement in the administration of the research procedures to a minimum. However, it will be necessary for your school to identify students who may benefit from this program so that we can prepare translated information letters and consent forms for their parents.

It is envisaged that recruitment will commence in **Term 1 2010** where potential participants who consented and have parental consent will be screened for their suitability for the project. Suitable students will then be randomly allocated into intervention and waitlist group. We will stagger the groups so that we have time to implement the program across schools, so some schools and student will have to wait for several months to begin a group. One of the primary carers of these children will be invited to attend 2 parents' sessions that run parallel with the children's sessions. These sessions will be run by me and a master's level trained psychology student at school or local community centre.

To what extent is participation voluntary, and what are the implications of withdrawing that participation?

Participation in this research project is entirely voluntary. All potential participants that are approached for their participation and do not wish to take part in the project are not compelled to in any way.

If any member of a participant group decides to participate and then later changes their mind, they are able to withdraw their participation. All contributions they have made to the research will be destroyed unless explicitly agreed to after the intent to withdraw has been indicated.

If the project has already been published at the time a participant decides to withdraw, their contribution that was used in reporting the project cannot be removed from the publication.

There will be no consequences relating to a decision by an individual or your school to participate or not, or to participate and then withdraw, other than those already described in this letter. These decisions will not affect the relationship with the research team, Curtin University of Technology or ASeTTS.

What will happen to the information collected, and is privacy and confidentiality assured?

The data is then stored securely in a locked cabinet in the School of Psychology at Curtin University of Technology and can only be accessed by other researchers with permission from the research team. The data will be stored for a minimum period of 5 years, after which it will be destroyed. This will be achieved by shredding all of the questionnaires using a shredder.

The data is maintained in a way that enables us to re-identify an individual's data and destroy it if participation is withdrawn. This is done by coding the participants using numerical numbers known only to the research team. This code will be used to link each individual's consent form and demographic information to all data that relate to that individual.

The identity of your students will not be disclosed at any time, except in circumstances that require reporting under the Department's Child Protection policy or where the research team is legally required to disclose that information.

The data will be used only for this project, and will not be used in any extended or future research without first obtaining explicit written consent from participants.

It is intended that the findings of this study are reported using average scores; therefore, no individual name or information will be published in the reports. When direct quotes are to be used in the report, participants name or any other identifiable information will be removed.

A summary of the research findings will be made available to the participating site(s) and the Department's Evaluation Branch. You can expect this to be available in 2011.

What are the education benefits of this research for your school?

Difficult experiences are hard to forget and this may affect children's memories, concentration, and school performance. Since this program is designed to help children who experience difficult emotions following exposure to adverse situations, this program will provide them with effective coping strategies, helping them to feel happier and do better at school. Once proven efficacious, this intervention program can also be used as a cost- and time-effective intervention for war-exposed young people suffering from similar problem at your school and other schools. We will provide resources and train your staff to run this program free of charge.

Are there any risks associated with participation?

Yes, participants may become slightly distressed at some points throughout the program because they may choose to talk about their upsetting experiences or memories. If a student from your school is found to be significantly distressed, I will contact you and his/her parents immediately so that appropriate action can be taken. I am also a registered psychologist and I am supervised by clinical psychologists, Dr Rosie Rooney and Dr Clare Roberts, who are on the research team and they have many years of experience working with children and adolescents.

Do all members of the research team who will be having contact with children have their Working with Children Check?

Yes. Under the Working with Children (Criminal Record Checking) Act 2004, people undertaking work in Western Australia that involves contact with children must undergo a Working with Children Check. Evidence that these Checks are current for each member of the research team who will be having contact with children will be provided to your school. I am also happy to provide you with copies if you have any concerns.

Is this research approved?

The research has been approved by the Curtin University of Technology Human Research Ethics Committee, and the [*Department of Education and Training*].

Who do I contact if I wish to discuss the project further?

If you would like to discuss any aspect of this study with a member of the research team, please contact me on 9266 7143 or Dr Rosanna Rooney on 9266 3050, and Dr Clare Roberts on 9266 7992. If you wish to speak with an independent person about how the project is being conducted or was conducted, please contact Dr Lyndall Steed, a representative of the Curtin University of Technology Human Research Ethics Committee, on 9266 7182.

How do I indicate my willingness for my school to be involved?

If you have had all questions about the project answered to your satisfaction, and are willing for your school to participate, please complete the **Consent Form** on the following page.

This information letter is for you to keep.

Thank you for considering!

Consent Form

- I have read this document and understand the aims, procedures, and risks of this project, as described within it.
- For any questions I may have had, I have taken up the invitation to ask those questions, and I am satisfied with the answers I received.
- I am willing for my school to become involved in the research project, as described.
- I understand that participation in the project is entirely voluntarily.
- I understand that my school is free to withdraw its participation at any time, without affecting the relationship with the research team, Curtin University of Technology or ASeTTS.
- I understand that this research may be published in a book or journal, provided that the participants or the school are not identified in any way.
- I understand that my school will be provided with a copy of the findings from this research upon its completion.

Name of Principal (printed):

Signature:

Date: / /

*Please kindly return this Consent Form to Curtin University by using the attached reply paid envelope or fax to 08 9266 2464 (Attn Irene Ooi).

Appendix P

The Coping Well Program pamphlet is unable to be reproduced here due to copyright restrictions.

Appendix Q

The questionnaire is unable to be reproduced here due to copyright restrictions.