THE ROLE OF SELF-CONCEPT IN A COMMUNITY-BASED STUDY OF THE EFFECTIVENESS OF TRAUMA-FOCUSED COGNITIVE BEHAVIOURAL THERAPY WITH TRAUMA-EXPOSED CHILDREN

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Abstract

Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) is a widely used treatment model for trauma (Cohen, Mannarino, & Deblinger, 2006). The Healthy Coping Program was a multi-site community-based study which evaluated the effectiveness of TF-CBT with trauma-exposed school-aged children in a diverse Canadian city (Muller & DiPaolo, 2008). Using data from the Healthy Coping Program, the role of children's self-concept, and its relationship to posttraumatic stress (PTS) symptoms were examined. Self-report data were collected from a total of 111 trauma-exposed children referred for a trauma-focused intervention (assessment and TF-CBT). Children's self-concept was measured using the short form version of the Tennessee Self-Concept Scale – Second Edition (Fitts & Warren, 1996). Children's PTS was measured using the Trauma Symptom Checklist for Children (Briere, 1996). Trauma-exposed children's self-concept was found to have a decreasingly significant negative relationship with PTS symptoms over the course of assessment and TF-CBT. Self-concept was significantly more dysfunctional amongst trauma-exposed children compared to a normative sample of children. Significant improvements in trauma-exposed children's self-concept were observed after receiving trauma-focused intervention. Trauma-exposed children's self-concept moved from a clinically dysfunctional range to the clinically functional range over the course of the assessment and continued to improve during TF-CBT. Further, these improvements were maintained at a six-month follow-up. These findings support the effectiveness of TF-CBT in improving trauma-exposed children's self-concept and underscore the importance of considering how children view themselves after trauma. Clinical implications are discussed.

Keywords: child, development, trauma, abuse, TF-CBT, community-based, self-concept, posttraumatic stress

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The Role of Self-Concept in a Community-Based Study of Trauma-Focused Cognitive Behavioural Therapy with Trauma-Exposed Children

Childhood trauma continues to be a pervasive problem. A study of 44, 817 adult Canadians found that two-thirds had been exposed to at least one traumatic event during their childhood (Joshi et al., 2021). The American Psychiatric Association (APA; 2022) has identified traumatic events as those that involve actual or threatened death, serious injury, or sexual violence. Trauma exposure includes events that occur directly, or are witnessed, involve learning that the event happened to a close relative/friend, or through repeated indirect exposure to the event through work (e.g., first responders; APA, 2022). According to the APA (2022), traumatic experiences range from maltreatment, witnessing violence, serious accident or injury, severe bullying, natural disaster, and exposure to war and/or conflict. The literature also suggests that there exists additional types of trauma such as poverty, oppression, and racism (Kezelman, 2019). Trauma is a subjective experience – an event is *experienced* as traumatic when it induces terror and shock and is perceived as threatening to life, safety, or physical being (Cohen et al., 2006). Exposure can be acute (single incident) or complex (multiple traumas; Cook et al, 2005). Different types of traumatic events can have the same negative outcomes for children, while the same traumatic event can affect children differently (Cohen et al., 2006). Children's responses to trauma can vary due to differences in how children make meaning of a traumatic event, their ability to access familial and external supports, their internal coping resources, and how they integrate the trauma into their sense of self (Cohen et al., 2006).

Prior research suggests that children's self-concept is negatively affected when they have experienced trauma (Gewirtz-Meydan, 2020; Godsall et al., 2004; Zanoti-Jeronymo & Carvalho, 2005; Runyon et al., 2009). It has been reported that children's self-concept accounts for a

significant amount of the variance in trauma symptomatology (Reyes, 2008). The DSM-5 includes negative cognitions about the self, and the International Classification of Diseases (ICD-11) includes negative self-concept, as part of the diagnosis for posttraumatic stress disorder (PTSD) and complex posttraumatic stress disorder (CPTSD), respectively (Banz et al., 2022). As such, treatment programs for trauma-exposed children would benefit from the recognition of the importance of understanding children's self-concept or view of themselves (Culp et al., 1991).

Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) is an evidence-based treatment for trauma-exposed children and adolescents (Cohen et al., 2006; Cohen & Mannarino, 2008; Cohen, Deblinger, et al., 2018; Kenny et al., 2019; Jensen et al., 2022, Puccia et al., 2012; Pollio & Deblinger, 2017). Although TF-CBT was a widely used treatment model at the time, its effectiveness had not yet been studied in a large, Canadian metropolis when The Healthy Coping Program began (Muller & Di Paolo, 2008). The Healthy Coping Program was a multi-year research collaboration between York University and nine child and family mental health centres in Toronto, Canada. The study was designed to evaluate the effectiveness of TF-CBT with trauma-exposed children (7 to 12 years old) and their non-offending caregivers (Muller & Di Paolo, 2008). Participants were administered a battery of questionnaires at various time points over the course of an assessment and treatment. Results from the Healthy Coping Program have been widely published (Bambrah et al., 2018; Cinamon et al., 2021; Konanur et al., 2015; Muller et al., 2013; Zorzella et al., 2015; Zorzella et al., 2017). Of significance, a treatment outcome study found that time alone does not heal all wounds (Konanur et al., 2015). Rather, significant reductions in trauma-exposed children's posttraumatic (PTS) symptoms were only observed following the implementation of TF-CBT, with therapeutic gains maintained six months following therapy (Konanur et al., 2015). Using data from the Healthy Coping Program, the

goals of the current study are to explore the role of self-concept in trauma-exposed children after receiving a trauma-focused intervention (assessment and TF-CBT) and its relationship to PTS symptomatology.

Literature Review

Trauma Exposure in Childhood

The development of child psychopathology that occurs in the aftermath of trauma is well documented (Black et al., 2012; Cohen, Deblinger, et al., 2018; Cohen & Mannarino, 2022; Kezelman, 2019). Some children develop significant PTS, others meet the criteria for PTSD, while others may only meet the full criteria months or years after the trauma (APA, 2022; Cohen, Mannarino, et al., 2018). PTS can develop at any age after the first year of life (APA, 2022). In addition to PTS, children may develop insecure attachment styles; affective symptoms (e.g., fear, anxiety, depression, anger); alterations in consciousness (e.g., dissociation); hold distorted cognitions about themselves, others, and the world (e.g., "The abuse was my fault."); engage in harmful behaviours (e.g., substance use, cutting, sexualized behaviours); experience difficulties in self-soothing; exhibit psychobiological symptoms (e.g., higher resting pulse rates and blood pressure); have developmental delays; and develop a range of other disorders (e.g., eating disorders; Cohen, Mannarino, et al. 2018; Cook et al., 2005; Culp et al., 1991; Turner et al., 2009). Traumatized children may exhibit competence in certain domains (e.g., academic functioning) but not others (e.g., social competence; Luthar et al., 2000). The coping strategies that are developed to survive the trauma often become detrimental in daily life in the absence of a serious threat because they directly produce posttraumatic symptoms, do not allow for a change in negative appraisals of the trauma, and prevent change memory of the trauma (Ehlers & Clark, 2000; Herman, 1992).

A landmark research study of 17, 337 adults in the United States, known as the Adverse Childhood Experiences (ACE) Study found that exposure to childhood abuse, neglect, and household dysfunction represented major risk factors for poor health and well-being later in life (Felitti et al., 1998). For example, a study of 151 men who engaged in child abuse, domestic violence offenders, stalking, or sexual offences found that they had experienced significantly higher rates of adversity during their childhoods compared to men in the general population (Reavis et al., 2013). A legacy of traumatic exposure in childhood can place individuals at risk of engaging in unhealthy and maladaptive behaviours later in life (Cook et al., 2005; Runyon et al., 2019). To heal from traumatic childhood experiences, survivors need to face them and proclaim them aloud (Herman, 1992). However, it is difficult to do this when such a disclosure would threaten one's belief in a 'just world' (Herman, 1992). Difficulties with speaking openly about traumatic events are further heightened within a societal context that often seeks to silence survivors because it is easier than sharing their burden of pain (Herman, 1992). It is harmful to stigmatize those who open up about their trauma when doing so is an important first step toward healing (Herman, 1992). Caregivers with unresolved childhood trauma are also at risk of projecting their own experiences through their parenting approach resulting in increased mental health difficulties in children (Cook et al., 2005; Kezelman, 2019).

Further, childhood trauma predisposes individuals to an earlier onset of psychopathology, longer duration of mental health symptoms, and poorer responses to treatments (Cook et al., 2005). Ogle and colleagues (2013) investigated the impact of trauma exposure on the development of posttraumatic symptomatology and psychosocial functioning in adults. The authors found that experiencing the most distressing trauma in childhood, compared to adolescence, young adulthood, midlife, or older adulthood, was associated with more severe

reports of trauma symptoms and lower ratings of happiness, social support, and coping ability. With the potential for posttraumatic symptoms to last for months, years, and even decades, it is critical to interrupt cycles of intergenerational trauma to ensure that survivors of childhood trauma do not expose others to harm because they have not had opportunities to heal (APA, 2022; Cohen et al., 2006; Downey & Crummy, 2022; van der Kolk, 1989). A critical aspect of breaking this cycle includes access to timely and effective treatment.

Trauma-Focused Cognitive Behavioural Therapy (TF-CBT)

Many randomized, controlled trials have demonstrated the effectiveness of the TF-CBT model in decreasing psychopathology in trauma-exposed children (Cohen et al., 2005; Cohen et al., 2011; de Arellano et al., 2014; Jensen et al., 2017). TF-CBT is a 12- to 16-session model in which specific components are addressed in parallel child and caregiver sessions. Each session is split, with the child and caregiver in separate individual sessions with the therapist until the latter part of treatment when conjoint caregiver-child sessions occur. This dyadic treatment approach recognizes the importance of non-offending caregivers in helping children heal after trauma. The TF-CBT components include trauma-sensitive interventions integrated with cognitive-behavioural, attachment, humanistic, family, and developmental neurobiology theoretical models. TF-CBT is a phase-based treatment model which includes coping skills-building (stabilization phase), trauma narrative and processing phase (trauma processing phase), and treatment consolidation and closure (integration phase; Murray et al., 2008). The components of the model are described widely and summarized by using the acronym ‘PRACTICE’: psychoeducation, parenting skills, relaxation, affect regulation, cognitive coping, trauma narrative, in vivo mastery of trauma reminders, conjoint child-parent sessions, and enhancing safety. The components are sequenced so that skills acquired earlier in therapy become the

foundation for those taught in later stages. For example, relaxation skills are taught to children to ensure that they can manage any difficult feelings that may arise when they discuss their traumatic experience in more detail later on in treatment.

An overarching goal of TF-CBT is to impact caregivers' functioning and children's trauma-related thoughts to the extent that the likelihood of more severe and lasting difficulties is reduced. It is essential that along with supporting the child and caregiver(s) to build the skills outlined in the model components, therapists model adaptive and healthy ways of relating during the sessions as much as possible. Traumatized children present with a diverse set of emotional and behavioural difficulties; therefore, therapists are encouraged to use TF-CBT as a guide rather than a manual and may adapt the model to accommodate the needs of individual families (Cohen et al., 2006). The model developers note that symptoms do not need to have resolved entirely at the end of treatment as research suggests that children and parents continue to use their skills and settle into healthier self-concepts beyond the termination of treatment (Cohen et al., 2006).

Self-Concept

Self-concept is an important construct in child development research (Reyes, 2008). A positive self-concept has been found to have a significant influence on good mental health and well-being (Cook et al., 2005; Shavelson & Bolus, 1982). Children who are raised by caregivers who foster feelings of safety, love, and appreciation tend to develop positive views of themselves (Groze, 1992; Plunkett et al., 2007; Rohmalimna et al., 2022). Furthermore, self-concept has been found to be a protective factor, as it is associated with increased capacity for being independent, responsible, tolerant of frustration, confident when attempting new tasks, daring to make decisions, and helpful (Butler & Gasson, 2005; Rohmalimna et al., 2022). A review of the literature reveals that there is no universal definition of self-concept (Rohmalimna et al., 2022;

Shavelson et al., 1976). A range of theories about the 'self' have been proposed dating back to William James (1890; in Harter, 2012). In earlier times, the field of psychology was hesitant to accept constructs that were not observable (Harter, 2012). As a result, it was not until the second half of the 19th century, and the advent of the cognitive revolution, that theories of the 'self' began to gain more ground (Harter, 2012). Although there continues to be some disagreement in the literature, there also seems to be some identifiable key aspects of self-concept.

First, self-concept is often used interchangeably with other constructs such as self-esteem, self-worth, self-acceptance, self-knowledge, self-efficacy, and so on (Butler & Gasson, 2005; Ferreira et al., 2022; Simons et al., 2012). However, it has been argued that self-concept is a broader construct of the self which includes the thoughts and feelings one holds about oneself whereas the other constructs represent only partial components of this wider definition (Buckroyd & Flitton, 2004; Cook et al., 2005). Second, self-concept develops throughout childhood (with the acquisition of language an especially important aspect of its formation) and becomes increasingly differentiated as one ages (Harter, 2012). Third, self-concept is believed to develop within the context of and to be influenced by environmental experiences. This is especially the case in regards to one's relationships with significant others since children internalize their caregivers' appraisals of them to inform how they view themselves (Cook et al., 2005; Shavelson et al., 1976; Harter, 2012). Fourth, self-concept is organized, as it provides a coherent view of oneself in relation to the world, and it enables us to interpret and assign meaning to our experiences and affect our behaviour (Gecas, 1982; Harter, 2012). Fifth, self-concept is both unidimensional (a global measure) and multidimensional (comprised of different domains; Buckroyd & Flitton, 2004, Shavelson et al., 1976). Sixth, self-concept is believed to be hierarchical, with global self-concept at the apex and inclusive of subdomains (described below;

Simons et al., 2012). Finally, self-concept is evaluative, that is, one's appraisal of oneself lies on a continuum from positive to negative (Gecas, 1982; Harter, 2012).

While a multidimensional approach is preferred, a unidimensional or global measure of self-concept can still be useful in gauging how a child sees themselves in totality (Butler & Gasson, 2005; Fitts & Warren, 1996). Global views of the self are also believed to be more stable (Shavelson et al., 1976; Harter, 2012). A child's total self-concept combines subdomains and indicates whether a child has an overall positive or negative prevailing view of themselves (Fitts & Warren, 1996; Simons et al., 2012). Children with a positive total self-concept tend to see themselves as competent and to like themselves (Fitts & Warren, 1996). Their overall positive perception of themselves confers many advantages such as enabling them to be relatively unaffected by external threats, sensitizing them to positive information about themselves, allowing them to take credit for successes and blame external factors for their failures, and motivating them to try harder when they do face failure (Fitts & Warren, 1996). In contrast, children with a negative total self-concept are less likely to express their positive attributes and are more likely to doubt their self-worth (Fitts & Warren, 1996). Their view of themselves tends to be unstable and easily affected by environmental stressors (Fitts & Warren, 1996). Children with an overall negative self-concept often experience difficult emotions (e.g., depression, shame), hold inaccurate perceptions about their competence, avoid situations where they may experience failure or rejection, and feel more helpless in the face of adverse experiences (Fitts & Warren, 1996; Harter, 2012).

Although the current study uses total self-concept to investigate change, it is relevant to understand the different areas that comprise children's overall view of themselves as these are the areas that contribute to their global self-perception. Fitts and Warren (1996) posited that six areas

contribute to overall self-concept: physical, moral, personal, family, social, and academic. Physical self-concept measures the child's view of their health, appearance, physical skill, and sexuality. A positive physical self-concept may include thoughts such as, "I like the way I look." Moral self-concept reflects a child's satisfaction with their conduct which relates to a sense of being able to control their impulses and behaviour. A child with a negative moral self-concept may think, "It's hard for me to do what's right." Personal self-concept measures the child's sense of adequacy and self-definition apart from their physical attributes or relationships with others (e.g., "I'm happy with who I am."). Family self-concept represents how a child views themselves in relation to their family and close friends (e.g., "I have a happy family."). Social self-concept measures how the child perceives themselves in relation to others, apart from family and close friends ("It's hard for me to be around other people."). Finally, academic self-concept refers to how the child perceives themselves in a school setting (e.g., “I know as much as other children in my class.”). As mentioned earlier, self-concept is a social construct, in that, one’s experiences affect its development including exposure to trauma.

Self-Concept and Trauma Exposure

The literature suggests that trauma exposure has the potential to both disrupt self-concept integration during development and to erode a child’s self-concept (Cook et al., 2005; Harter, 2012). Significant stressful experiences disrupt the typical psychosocial processes that underlie the development of a positive self-concept including a sense of safety and security in one’s environment and trust in important figures in one’s life (Kouvelis & Kangas, 2021). Trauma can lead a child to feel defective, helpless, incapable, and unlovable (Cook et al., 2005). Children develop a tendency to blame themselves when they have negative experiences (Cook et al., 2005). Those with enduring posttraumatic symptoms continue to experience the trauma as a

current threat rather than a time-limited event (Ehlers & Clarke, 2000). When a traumatic event becomes a prominent aspect of the story of one's life, the identification of oneself as a trauma victim or survivor can become a defining part of one's self-concept (Kouvelis & Kangas, 2021). This can have a sizable impact on children's functioning. A meta-analytic review found that self-esteem in children is especially susceptible to becoming negatively influenced by trauma exposure compared to adults (Zhang et al., 2022).

A study by Lanius and colleagues (2020) found that self-related thoughts and experiences (e.g., “I will never be able to experience normal emotions again”) are represented in the brain as a large, cortical network along the mid-line, called the default mode network (DMN). Healthy activity in the DMN is related to a stable and enduring sense of self. The researchers found that those with PTSD demonstrated significantly reduced resting-state functional connectivity, with greater symptom severity associated with more reductions. These observations were consistent with participants’ expressions that the traumatic experience had become entwined with their sense of self.

A study of 220 adolescent girls in the Child Protective System in Canada revealed that the majority of them had experienced abuse in their dating relationships and that this was associated with especially negative self-concept (Collin-Vezina et al., 2006). In a study of children aged 10 to 17, the authors matched those who had been sexually abused (n = 414) with a control group on age, sex, and socioeconomic status (Gewirtz-Meydan, 2020). The clinical group comprised of abused children was found to have a significantly lower self-concept compared to the control group. In a different study, a random sample of 500 chemically dependent adolescents admitted to a residential treatment centre found that 150 of these cases had experienced physical or sexual abuse (Cavaiola & Shiff, 1989). Abused adolescents were

matched with a non-abused chemically dependent group and a non-abused, non-chemically dependent group, with respect to age, race, and socioeconomic status. Results indicated that abused and chemically dependent adolescents were found to have a significantly more negative self-concept compared to the other groups, with the type of abuse having a negligible effect on self-concept scores. A study comparing 20 children of alcoholic parents and those with non-alcoholic parents found that those with alcoholic parents had a more negative self-concept (Zanoti-Jeronymo & Carvalho, 2005). Runyon and colleagues (2009) found that amongst 100 adolescents with a history of child sexual abuse, 90% reported lower than average self-concepts. Traumatic experiences have significant negative effects on children's views of themselves, calling for corrective intervention.

Self-Concept as a Target for Therapeutic Change

Prior research has found improvements in self-concept in children following participation in therapy. A study on the use of a peer-based dyadic intervention for children aged 8 to 12 years diagnosed with ADHD, found significant improvements in self-concept from pre- to post-treatment (Nguyen et al., 2022). Culp and colleagues (1991) matched 17 maltreated children enrolled in a day treatment program with a non-treatment group of 17 maltreated children. Children in the treatment program were found to have significantly greater self-concept scores following participation in the therapeutic day treatment program relative to the non-treatment group. Shah and colleagues (2011) studied the effectiveness of CBT in improving low self-concept among Malaysian adolescents. They found that self-concept significantly improved in those who participated in CBT compared to the control group (Shah et al., 2011). Mohammed and colleagues (2022) found that CBT interventions improved self-concept in 100 institutionalized children with conduct disorder in Egypt.

Banz and colleagues (2022) conducted a meta-analysis of the effects of current treatments on improving negative self-concept among trauma survivors with PTSD. The authors note that recent research has indicated that current evidence-based treatments for PTSD effectively reduce negative self-concept through interventions such as cognitive restructuring. The goal of the meta-analysis was to investigate whether there were systematic differences between different types of treatment modalities including CBT, exposure therapy, and Eye Movement Desensitization and Reprocessing (EMDR). Findings indicate that the type of therapy did not make a difference in effectively reducing negative self-concept and reported significant improvements in all therapy groups compared to control groups at post-treatment. Karatzias and colleagues (2019) conducted a systematic review and meta-analysis of randomized control trials of psychological interventions for PTSD in which participants had clinically significant baseline levels of negative self-concept. The results indicated that CBT, exposure therapy, and EMDR were effective in reducing negative self-concept.

Self-Concept and TF-CBT

A primary goal of TF-CBT is to help children integrate their traumatic experience into the totality of their lives so that it represents just one chapter of their lives instead of a defining feature (Cohen et al., 2006). However, there is limited prior research demonstrating that the TF-CBT model is effective in improving self-concept in children (Cohen et al., 2006). A case study of an adolescent girl in a large, urban metropolis presenting with substance use, child sexual exploitation, low self-esteem, and other internalizing and externalizing behaviour problems, found improvements in self-esteem following TF-CBT (Kenny et al., 2019). A randomized clinical trial conducted in Iran divided 40 physically abused children, aged 9 to 12 years old, into an intervention and a control group (Farina et al., 2018). The authors found that pre-therapy

reports of self-efficacy were not significantly different; however, self-efficacy scores in the social and emotional domains were significantly improved in the intervention group relative to the control group following TF-CBT. Finally, a study of 384 children aged 6 to 14 years old referred for sexual abuse in Montreal, Canada found that TF-CBT was effective in improving self-concept (Hébert & Amédée, 2020).

In accordance with these findings, the current study hypothesizes that the TF-CBT model provides many opportunities to correct the potential negative effects that children's trauma has had on the various domains of children's self-concept (as described by Fitts & Warren, 1996). Moreover, Fitts and Warren (1996) suggest effective interventions for negative self-concept that overlap with elements of the TF-CBT model including self-acceptance and comfort with accepting one's success, self-monitoring using cognitive-behavioural techniques, and the involvement of a caregiver in treatment. The first component of the TF-CBT model is psychoeducation which involves dispelling commonly held myths about trauma and normalizing the child and caregiver's response to the trauma. For example, traumatized children often experience academic difficulties such as poor grades, truancy, dropping out of school, the tendency to make trouble in the classroom, or dissociation (which can be misperceived as daydreaming or inattentiveness; Cohen et al., 2006; Cook et al., 2005). These behaviours can often result in children being mislabeled as unmotivated, lazy, and defiant; eliciting criticism from teachers and caregivers. Educating children and caregivers that these behaviours often occur following trauma exposure is likely to have a positive impact on children's academic self-concept.

When perpetrators are caregivers, children are prone to viewing themselves as bad or shameful. This allows children to justify their caregivers' maltreatment of them in order to

preserve the relationship and maintain their assumptions about a 'just world' (i.e., they deserved what happened to them; Cohen et al., 2006). Children who have experienced domestic violence may align themselves with the abuser as a maladaptive strategy to remain safe because they have observed that engaging in abusive behaviours confers advantages such as power and control (Herman, 1992; Cohen et al., 2006). They may develop a hypersensitivity to perceived rejection from others because parental rejection in the past served as a warning sign for abusive behaviour or other traumatic events (Cohen et al., 2006). Positive parenting skills and conjoint caregiver-child sessions are components of the TF-CBT model which enable opportunities for children to engage in open and healthy communication with their non-offending caregivers. This can include believing and validating their child's experience, tolerating their child's difficult feelings, and managing their own emotional response – all yielding a positive impact on children's family self-concept (Cook et al., 2005).

The relaxation component helps children reduce trauma-related psychophysiological symptoms. For example, a child who has been in a car accident may become triggered when they are asked to ride in a car because cars have come to represent a trauma reminder. This may lead them to perceive danger every time they encounter this trauma reminder and experience physiological responses such as elevated stress hormones and adrenaline, increased heart rate, muscle tension, shallow breathing, stomachaches, heightened startle response, and disturbed sleep (Cohen et al., 2006). Learning how to manage these symptoms by engaging in relaxation techniques such as deep breathing or visualization can help them to feel calmer which is likely to positively affect their physical self-concept.

The affective expression and modulation component involves learning how to identify internal emotional states, interpret these states, apply the appropriate label to these states (e.g.,

happy, sad), safely express the states, and regulate internal experiences. This component helps children cope with the often overwhelming and difficult feelings that occur in the aftermath of trauma. For example, anger is a common affective trauma symptom in children and can manifest as noncompliant behaviour, rages, tantrums, and physical aggression toward property or other people (Cohen et al., 2006). General anxiety often develops as a result of the sudden, unexpected, and terrifying nature of trauma (Cohen et al., 2006). Children may become perfectionistic in an attempt to ward off potential future threats and experience depressive symptoms (Cohen et al., 2006). Children may misattribute these behavioural manifestations of their feelings as moral failings rather than symptoms of a trauma response. Learning how to effectively manage their feelings, and consequently, their behaviour, is likely to improve their moral self-concept.

The cognitive coping and processing component involves identifying problematic automatic thoughts in everyday situations and replacing them with alternative accurate and balanced thoughts using the cognitive triangle (i.e., the interrelatedness of thoughts, feelings, and behaviours; Cohen et al., 2006). The trauma narrative provides children with a structured opportunity to put together a trauma narrative, facilitating the sharing of traumatic experiences. In the aftermath of trauma, children will often search for an explanation, and if one cannot be found, they may develop unhelpful beliefs. For example, they may tell themselves, “I should have warned Mom to leave home so she wouldn’t have gotten beat up when I knew that Dad was in a bad mood" or "bad things always happen to me" (Ehlers & Clarke, 2000). A child who became aroused during sexual abuse may believe that they held secret desires to be assaulted (Ehlers & Clarke, 2000). These negative appraisals of themselves can lead to a perception of themselves as incapable, unacceptable, and unable to achieve future goals (Ehlers & Clarke,

2000). When such cognitive distortions are addressed, improvements are likely to be observed in their personal self-concept.

Children who were sexually abused at night may develop fears and regressive behaviours at nighttime not experienced by their peers (Cohen et al., 2006). For a child who has experienced ongoing community violence, their entire neighbourhood may become a trauma trigger leading them to withdraw from others or form maladaptive relationships with others in the community (Cohen et al., 2006). Involuntary re-experiencing of a traumatic experience is often triggered by such factors as reminders that were present shortly before or during the traumatic event (e.g., smells, noises), similar emotional experiences (e.g., feeling fearful or trapped), or similar internal states (e.g., touch on a certain part of the body, position of the body in space; Ehlers & Clark, 2000). In vivo mastery of trauma reminders, a component of TF-CBT, involves reducing fears of innocuous trauma cues through gradual exposure of the child to the trauma reminders in a safe setting (e.g., treatment room). Enhancing future safety and development improves the child's safety skills and their ability to engage adaptively with their environment. Children's social self-concept is likely to improve once their unwanted responses to trauma cues diminish and they learn how to keep themselves safe around others.

The Current Study

The Healthy Coping Program was developed to study the effectiveness of TF-CBT in a large, Canadian city with a diverse population. A treatment outcome study found that TF-CBT was effective in significantly reducing children's PTS from pre-assessment to post-therapy (Konanur et al., 2015). Furthermore, these gains were maintained for six months following therapy. To optimize TF-CBT even further, the researchers of the Healthy Coping Program have also studied the role of the therapeutic alliance (Zorzella et al., 2015; Zorzella et al., 2017); child

emotion regulation (Muller et al., 2013; Thornback & Muller, 2015); caregiver perceptions and expectations (Muller et al., 2013), parent-child discordance when reporting on children's behavioural and emotional difficulties (Bambrah et al., 2018); and the relationship between parental support, parent emotional reaction, parenting stress and children's PTS (Cinamon et al., 2021). This research has largely focused on children's symptomatology, children's relationship to their caregiver(s), and the relationship between the child and their therapist. Other variables that have been studied in the broader literature include children's maladaptive behaviour, other affective states (e.g., shame), family factors (e.g., family cohesion), parental factors (e.g., parenting stress), the effectiveness of individual TF-CBT treatment components, and clinical retention rate in TF-CBT (Cohen, Mannarino, et al., 2018; de Arellano et al., 2014; Kenny et al., 2019).

In contrast, research on changes in self-concept following TF-CBT is limited (Farina et al., 2018; Hébert & Amédée, 2020; Kenny et al., 2019). The model developers note that the treatment components target symptoms such as PTS, anxiety, and depression, but they have not yet studied the potential impact on children's self-concept (Cohen et al., 2006). Amongst studies of trauma-exposed children, self-concept research has tended to focus on abused children (Kouvelis & Kangas, 2021; Murthi et al., 2006; Reyes, 2018; Runyon et al., 2009). While this population is important, it is also helpful to understand how children see themselves after different types of traumatic experiences to broaden the application of the TF-CBT model. There is good reason to believe that children treated with TF-CBT should experience substantial improvements in self-concept. Such a finding would further strengthen the evidence-base for this model. This study will build upon prior research by using data from the Healthy Coping Program to examine: 1. If there is a significant relationship between trauma-exposed children's PTS

symptoms and self-concept; 2. If trauma-exposed children have a relatively more negative self-concept compared to a normative sample of children; 3. If trauma-exposed children's self-concept improves with the passage of time alone; 4. If trauma-exposed children's self-concept improves after receiving a trauma-focused intervention; and 5. If the improvement observed post-treatment is maintained during the follow-up period.

Research Questions and Hypotheses of the Current Study

Question 1. Will there be a significant relationship between trauma-exposed children's PTS symptoms and self-concept?

Hypothesis 1. It is expected that there will be a significant negative relationship between a sample of trauma-exposed children's mean PTS symptoms and mean self-concept (i.e., as PTS symptoms increase, ratings of self-concept decrease and vice versa).

Question 2. Will trauma-exposed children have a more negative self-concept compared to a normative sample of children?

Hypothesis 2. Before receiving a trauma-focused intervention (assessment and TF-CBT), it was expected that a sample of trauma-exposed children would have a significantly more negative mean self-concept compared to that of a normative sample of children (TSCS:2 standardization sample: $M = 50.3$, $SD = 10.3$).

Question 3. Will trauma-exposed children's self-concept improve before receiving a trauma-focused intervention (during the passage of time alone)?

Hypothesis 3. It is expected that a sample of trauma-exposed children's mean self-concept will not improve before receiving a trauma-focused intervention (during the passage of time alone).

Question 4. Will trauma-exposed children's self-concept improve after receiving a trauma-focused intervention?

Hypothesis 4. It is expected that a sample of trauma-exposed children's mean self-concept will significantly improve after receiving a trauma-focused intervention.

Question 5. Will the improvement in trauma-exposed children's self-concept observed after receiving a trauma-focused intervention be maintained?

Hypothesis 5. It is expected that the significant improvement observed in a sample of trauma-exposed children's mean self-concept after receiving a trauma-focused intervention will be maintained at a six month follow-up.

Method

Data from this study were taken from the Healthy Coping Program which lasted from March of 2006 to May of 2013 (Muller & DiPaolo, 2008). The Healthy Coping Program received funding from the Provincial Centre of Excellence for Child and Youth Mental Health at the Children's Hospital of Eastern Ontario (Muller & DiPaolo, 2008). Additional funding was obtained from the Hedge Funds Care Canada Foundation. Ethics approval for the Healthy Coping Program was received from the Office of Research Ethics at York University and the following non-profit, community-based children's mental health agencies in the Greater Toronto Area: Aisling Discoveries Child and Family Centre, Boost Child Abuse Prevention and Intervention (formerly the Toronto Child Abuse Centre), Child Development Institute, COSTI Family and Mental Health Services, The Etobicoke Children's Centre, The Hincks-Dellcrest Treatment Centre (Sheppard & Jarvis Sites), Yorktown Child and Family Centre, and Peel Children's Centre.

Procedure

Recruitment. A total of 158 families referred for a therapeutic intervention to Boost Child Abuse Prevention and Intervention and Peel Children's Centre were assessed for study inclusion. Verification of children's traumatic experience(s) was obtained through reports provided by the local Children's Aid Society (CAS) or police services. Referrals to Boost and PCC were made by a range of sources including CAS, police services, other child mental health centres, school staff, victim witness assistance programs, family physicians, and in some cases families self-referred. Non-offending caregiver(s) attended an initial meeting with a researcher from York University and an assessor/therapist from either Boost or PCC at these agencies. The purpose of the meeting was to inform the caregiver about the assessment and treatment process, verify that the child and caregiver met the eligibility criteria of the research study, describe the study procedure, and obtain consent from participating families. It was explained that participation in the trauma-focused intervention (assessment and TF-CBT) and the research study was voluntary. Families who did not agree to participate were still offered therapeutic services.

Eligibility. Families were invited to participate in the Healthy Coping Program only if the following conditions were met: 1. The child was 7 to 12 years of age at the time of assessment and treatment; 2. The child had experienced a verified traumatic event (e.g., abuse, community violence, home invasion, etc.); 3. A non-offending caregiver(s) was willing and able to participate in assessment and TF-CBT; 4. The child and/or caregiver(s) did not have an active substance abuse problem or psychotic disorder that interfered with functioning; 5. The child was not actively suicidal; 6. The child did not have a documented developmental disorder (e.g., autism); 7. The child and/or caregiver(s) were on a stable regimen if they were taking any

psychotropic medications; and 8. The child had not received prior treatment for the referral trauma. A total of 111 families were eligible to participate in the Healthy Coping Program.

Waitlist-Control Design. The waitlist-control design only lasted for the first two and a half years of the Healthy Coping Program. It involved the random assignment of families to either a waitlist-control group or a non-waitlist group. Families in the waitlist-control group waited 3 months before starting the trauma-focused intervention whereas those in the non-waitlist group started the trauma-focused intervention immediately. At some point during the research study, the community agencies decided to remove the 3 month waiting list and have all families start the trauma-focused intervention immediately. Anecdotally, this decision was based on the agency's preference to not have families placed on an artificial waitlist simply for the purposes of the research study. The intention of the waitlist-control design was to evaluate the effectiveness of TF-CBT by comparing the waitlist-control group to the treatment group. However, this analysis was ultimately not completed because the assessments carried out by Boost and PCC were more comprehensive than initially anticipated and were therapeutic in and of themselves (e.g., exposure to elements of the TF-CBT model). A comparison between the pre-waitlist and post-waitlist (pre-assessment) samples was used to evaluate whether the passage of time alone improved self-concept.

Assessment. The first phase of the trauma-focused intervention was an assessment. All families completed an assessment at Boost or PCC before starting TF-CBT as this was a standard practice for participating community agencies. The purpose of the assessment was to formulate specific recommendations to inform treatment. Assessments consisted of meetings with the children and caregivers and were completed for 96 children. The assessments lasted 3 to 4 sessions on average and were in the format of semi-structured clinical interviews. In addition to

implementing some elements of the TF-CBT model (e.g., psychoeducation, gradual exposure to the trauma), detailed questions, activities, drawings, and questionnaires were used to collect information about the child's traumatic experience(s), reactions of significant others, and the effect of the trauma on the child's functioning and well-being. This information was captured in a scrapbook. Caregiver interviews and questionnaires queried family background information, developmental history, concerns about the child, relational dynamics in the family, other stressful experiences in the family, the strengths of the child and family, cultural considerations, information about the disclosure in the case of maltreatment, and how the child and family were coping following the traumatic event(s). A feedback session was held with the assessor, TF-CBT therapist, and caregiver(s) to share the assessment report and explain the treatment rationale. In some cases the therapist and caregiver made a decision to include the child in this meeting.

TF-CBT. The second phase of the trauma-focused intervention was TF-CBT. Individual therapy sessions with the child and caregiver occurred in parallel so that caregivers could help their child practice the skills learned in therapy each week. A total of 59 children and caregivers completed TF-CBT and treatment lasted 17.5 sessions on average. Parenting skills such as the use of praise, selective attention, and time-outs, were taught throughout treatment to improve child-caregiver interactions. Psychoeducation involved dispelling commonly held myths about trauma (e.g., the family is alone in their experience) and normalizing the child and/or caregiver's response to the trauma. Relaxation helped the child reduce trauma-related psychophysiological symptoms (e.g., increased heart rate, muscle tension, shallow breathing). Affective expression and modulation focused on feeling identification and emotion regulation techniques including positive imagery and self-talk. Cognitive coping and processing involved identifying problematic automatic thoughts (e.g., "The abuse was my fault") and replacing them with alternative healthy

thoughts. The child provided a detailed account (e.g., written story, cartoon, play) of their traumatic experience in the form of the trauma narrative. The therapist supported the child by helping them apply the cognitive and affective coping skills acquired earlier in therapy as the child remembered painful trauma-related thoughts. Cognitive distortions the child had about their responsibility for the trauma were addressed. The therapist used the caregiver sessions to prepare the caregiver to respond appropriately to potentially shocking and/or difficult information in the child's trauma narrative. In vivo mastery of trauma reminders involved reducing fears of innocuous trauma cues through gradual exposure of the child to the trauma reminders and cues in a safe setting while using relaxation techniques. Conjoint parent-child sessions allowed the child to share the trauma narrative with their caregiver and discuss the knowledge and skills they learned in therapy. Enhancing future safety and development equipped the child with personal safety skills (e.g., recognizing danger, saying "no", and confiding in a trustworthy adult).

Model Fidelity. To ensure adherence to the TF-CBT model, an educative approach was used in which therapists received TF-CBT training and had access to ongoing supervision and case consultation throughout. All therapists read “Treating Trauma and Traumatic Grief in Children and Adolescents” (Cohen et al., 2006) and completed formal TF-CBT web-based training (TF-CBT Web, 2005). Attendance at monthly clinical consultation meetings, moderated by a senior TF-CBT trainer over the course of the Healthy Coping Program, provided therapists with an opportunity to share case concerns and solicit peer and expert consultation. Therapists also participated in TF-CBT workshops led by senior trainers. Finally, therapists completed a TF-CBT model adherence for each research case which specified the time the therapist spent on model components at each therapy session with the child and caregiver. Review of the model adherence checklists by researchers and monthly small-group supervision of therapists to

reinforce TF-CBT skills by clinical supervisors well-versed in TF-CBT at the treatment agencies were used to further ensure fidelity to the model.

Data Collection. Families completed a series of questionnaires at different time points over the course of assessment and treatment, including: pre-waitlist, pre-assessment, pre-therapy, post-therapy, and six month follow-up. The measures used in the current study were administered as part of a larger battery of psychometric measures that queried participants' thoughts and feelings related to the traumatic experience. Children typically required approximately two hours to complete all the measures. In compensation for research participation, families were offered an opportunity to bypass the waitlist at the treatment agency; monetary compensation ($20 to $30 per data collection time point); and transportation tickets.[1]

Measures

Trauma Information. The Trauma Information Scale was developed for the Healthy Coping Program to document children's trauma history and was based on the integration of items and categories derived from existing measures (Barnett et al., 1993; Cohen, 1998; Finkelhor et al., 2005; Higgins & McCabe, 2001; Straus et al., 1998; Walsh et al., 2004; Wolfe & McGee, 1991). The scale was completed by therapists based on information gathered at intake and assessment. Sexual abuse items ranged from disrobing and touching to oral-genital contact and penetration. Physical abuse items ranged from the child being slapped or hit with an object to the

[1] The method by which incentives were provided in this study received ethics approval from York University and the children's mental health centres involved in the study. The decision to offer research participants an opportunity to bypass the agency waiting list was made based on a collaborative discussion between the research team and the agencies. This incentive was felt to be reasonable for several reasons: 1. Agencies typically had waiting lists for therapeutic services so subjecting those who declined the research study to wait times for intervention was not unusual; 2. The implementation of the TF-CBT model represented a more efficient intervention than was previously offered by the agencies, increasing their capacity to reduce wait times overall; and 3. The agencies felt that participation in the research study had the potential to identify an effective evidence-based treatment approach and would be of great benefit to the community-at-large, providing improvements in service delivery for many.

use of a weapon (e.g., knife or gun) on the child. Witnessing domestic violence included verbal (e.g., "Swearing, insulting, or name calling.") and physical aggression (e.g., "Kicking or hitting with a fist.") observed between adults in the home and/or witnessing the assault of another child in the home by an adult. Psychological abuse included such incidents as the child being ridiculed or belittled and the child being told they were a burden and unwanted by a caregiver. Neglect refers to a lack of appropriate shelter, food, clothing, attention, and supervision by a caregiver. Other traumatic events (e.g., divorce/separations) were also queried.

PTS Symptoms. The Trauma Symptom Checklist for Children (TSCC; Briere, 1996) is a 54 item standardized scale that assesses trauma-related symptoms among children (ages 8-16) who have been exposed to traumatic life events. The TSCC was standardized on large clinical and nonclinical groups (Briere, 1996). Children rate how often they experience symptoms on a 4-point Likert scale (1 = *never* and 4 = *almost all of the time*). The TSCC yields scores for the following six main clinical scales: Anger (ANG), Anxiety (ANX), Depression (DEP), Dissociation (DIS), Posttraumatic Stress (PTS), and Sexual Concerns (SC). There are a variety of statements representing trauma symptoms such as, "Getting scared all of a sudden and don't know why."). *T* scores are used to interpret the child's self-concept and are standardized transformations of the raw scores (M = 50.0, SD = 10.0). For the PTS scale, *T* scores range from 35 to 105 and those that are at or above 60 are considered clinically dysfunctional. The current study used the total PTS score to assess children's symptomatology. Two response-distortion scales indicate whether a child is under or over-responding to an invalid degree. The clinical scales have been found to have high internal consistency reliability and good validity. Internal consistency reliability coefficients are strong for five of the clinical scales, ranging from 0.80 to 0.89 but are slightly lower for the sexual concerns subscale which had alpha coefficients ranging

from 0.67 to 0.78. Symptom reductions measured by the TSCC following trauma therapy have been reported (Cohen et al., 2005; Konanur et al., 2015; Nolan et al., 2002). It has also demonstrated convergent validity with other PTS symptom measures such as the Children's Impact of Traumatic Events Scale–Revised (Crouch et al., 1999).

Self-Concept. Children's self-concept was measured using a standardized scale, the Tennessee Self-Concept Scale, 2nd Edition (TSCS:2**;** Fitts & Warren, 1996). The TSCS:2 was developed to include a child report version that was not included in the first edition for children aged 7 to 14 years old. The current study used the short form of the TSCS:2 which consists of the first 20 statements of the measure. Responses on the short form TSCS:2 produce a total self-concept score, which correlates strongly with the longer version ($r > .90$; Fitts & Warren, 1996). The statements were rated by the child on a 5-point Likert scale (1 = *always false* to 5 = *always true*). Items assessed self-concept in a range of domains, including physical, moral, personal, family, social, and academic/work. Representative items include "It's hard for me to do what's right," "I know as much as other children in my class," and "I like the way I look." Total self-concept is a combination of the scores on these subscales and assesses the extent to which the child has a generally positive or negative view of themselves. Total self-concept is considered to be the most important score on the measure (Pauldine et al., 2020) and was used in the analyses for this study. *T* scores were used to interpret the child's self-concept and are standardized transformations of the raw scores ($M = 50.0$, $SD = 10.0$). For the total self-concept score, *T* scores range from 20 to 80 and those that are less than or equal to 40 are considered to be clinically dysfunctional. Three validity scales indicate the degree to which the child is being self-critical, presenting an overly positive view of themselves, and showing a tendency for extreme responses. The TSCS:2 short-form has demonstrated good reliability for the total *T* score

regarding internal consistency (α = .91) and one week test-retest reliability (α = .72; Fitts & Warren, 1996). Fitts and Warren (1996) also report evidence of convergent validity, with the TSCS:2 correlating with one of the most widely used self-concept measures, the Piers-Harris Children's Self-Concept Scale (Piers, 1991).

Participants

Children. Children who completed at least one data collection in this study included 77 girls and 34 boys, ranging in age from 7 to 12 years old (*M* = 10.1, *SD* = 1.6). The ethnic background of the children included identification as European-Canadian (37.8%), African/Caribbean-Canadian (19.8%), Latin America-Canadian (12.6%), Asian-Canadian (9.9%), South Asian-Canadian (8.1%), Indigenous (6.3%), and other (e.g., Middle Eastern; 5.4%). Referral for the trauma-focused intervention was primarily for sexual abuse (73.9%); however, referrals were also made for physical abuse, witnessing domestic violence, traumatic grief, and home invasion. A significant proportion of the children (73.6%) had experienced multiple adverse experiences in addition to the referral trauma (e.g., additional types of abuse, neglect, bullying/assault by peers, war and/or conflict, divorces/separations, etc.). Perpetrators were overwhelmingly known to the child victim (91.8%), were adults (85.6%), and were men (97.3%). They were identified as the child's biological father (25.5%), a family friend (24.5%), the child's stepfather/mother's partner (16.4%), a relative (13.6%), a stranger (8.2%), a sibling (4.5%), a peer (4.5%), and the child's biological mother (2.7%). The length of time between children's traumatic experience and their referral for therapeutic intervention was variable: 0–3 months (21.6%), 4–6 months (26.5%), 7–9 months (9.8%), 10–12 months (9.8%), more than 12 months (31.4%), and an unknown length of time (1.0%).

Caregivers. Caregivers who participated in the assessment and TF-CBT included 97 women and 14 men, ranging in age from 25 years to 72 years old (*M* = 37.4, *SD* = 8.1).

Caregivers were mostly biological mothers (82.0%) but also included foster parents, biological fathers, adoptive fathers, stepfathers, and guardians. Marital status was reported as single (30.2%), married (27.4%), common-law relationship (14.2%), divorced (14.2%), widowed (1.9%), or other (12.3%; e.g., separated). Education level ranged from some/completed high school or less (35.1%), trades certificate/diploma (9.0%), some/completed community college or university (52.2%), to some/completed graduate school/professional training (3.6%). Annual household income in Canadian dollars before taxes ranged from below $10,000 (11.0%), $10,000 to $14,999 (17.4%), $15,000 to $19,999 (12.8%), $20,000 to $29,999 (12.8%), $30,000 to $39,999 (2.8%), $40,000 to $49,999 (12.8%), $50,000 to $59,999 (9.2%), and $60,000 or more (21.1%).

Therapists. Therapists from participating agencies (33 women, 1 man) ranged in age from 24 to 57 years (M = 34.2 years, SD = 7.3). Each therapist saw an average of 2.2 child participants (SD = 1.6; range = 1 to 8). The highest education levels achieved by the therapists included a master's degree (75.8%), partial doctoral degree (12.1%), partial master's degree (6.1%), undergraduate university degree (3%), and college diploma (3%). Training backgrounds consisted of social work (60.6%), psychology (24.3%), art therapy (6.1%), psychodynamic child therapy (3%), marriage and family therapy (3%), and child and youth care (3%). The therapists varied in their clinical experience with trauma-exposed children, ranging from less than 1 year to 27 years. Theoretical backgrounds were reported to include cognitive-behavioural, psychodynamic, client-centered/nondirective, solution-focused, narrative, family systems, ecological, and eclectic.

Results

Data were screened before examining the main hypotheses. The accuracy with which data were entered was evaluated by comparing entered and re-entered data files. Discrepancies between the files, representing missing and/or incorrect values, were identified and corrected.

Exclusions, Withdrawals, and Missing Data

Figure 1 outlines participant sample sizes, exclusions, and withdrawals at each data collection time point. Families referred for a trauma-focused intervention (assessment and TF-CBT) were excluded before research participation if they did not meet the study eligibility criteria. Subsequent exclusion from the Healthy Coping Program occurred for several reasons: a) participants were excluded before the assessment or therapy if the assessor determined that an alternative intervention approach was needed (e.g., the child was to be re-located to a treatment residence), b) participants were excluded following therapy if there were concerns around therapists' adherence to the TF-CBT model, and c) participants were excluded during the six months following TF-CBT if the child and/or caregiver continued to receive therapeutic intervention outside the purview of the Healthy Coping Program during that time.

Missing data occurred when participants withdrew from the Healthy Coping Program at various points during the procedure. Although detailed information about the reasons that each family withdrew could not be gathered, there were instances when the researcher/clinician was informed by the caregiver. Withdrawal from the research study included reasons such as finding it to be too much of a time commitment, discomfort with the questions being asked, or losing touch during the 6 months before the follow-up data collection. Withdrawal from the trauma-focused intervention included reasons such as moving out of the area, competing obligations (e.g., school, work), or the child and/caregiver did not want to continue with the TF-CBT model.

The retention rate for the research study (84.4%) was higher than the retention rate for the trauma-focused intervention (64.6%; see Figure 2). The pattern of when families withdrew was dependent on withdrawal type (i.e., research study vs. trauma-focused intervention). A comparison of these groups revealed that withdrawals from the research study peaked during the six months following TF-CBT before a follow-up data collection. In contrast, families who withdrew from the trauma-focused intervention were most likely to do so following the pre-assessment data collection, either before they began the assessment or at some point during the assessment.

Total *T* scores for the standardized questionnaires (i.e., TSCS:2 and TSCC) were calculated according to manual scoring instructions. A screening of the data indicated that there were no missing questionnaire data for both measures for all participants across all time points.

Question 1. Will there be a significant relationship between trauma-exposed children's PTS symptoms and self-concept?

It was expected that there would be a significant negative relationship between a sample of trauma-exposed children's mean PTS symptoms and mean self-concept (i.e., as PTS symptoms increase, ratings of self-concept decrease and vice versa). Raw scores obtained for PTS symptoms and self-concept were converted to *T* scores. Tables 1 and 2 provide sample sizes, ranges, means, and standard deviations by time point for trauma-exposed children's PTS symptoms and self-concept by data collection time point, respectively.

All bivariate relationships were examined at each of the following time points: pre-waitlist, pre-assessment, pre-therapy, post-therapy, and follow-up. Correlations coefficients are especially affected by the presence of outliers. Potential outliers were identified using Cook's distance and were subsequently removed. A Pearson correlation was conducted to determine the

relationship between self-concept and PTS symptoms. As expected, a significantly negative relationship between self-concept and PTS symptoms was found at pre-waitlist ($r(25) = -.69$, $p < .001$), pre-assessment ($r(97) = -.56$, $p < .001$), and pre-therapy ($r(73) = -.11$, $p = < .05$. Unexpectedly, a nonsignificant relationship was found between the variables at post-therapy ($r(51) = .14$, $p = .306$) and follow-up ($r(41) = .34$, $p = .280$).

Question 2. Will trauma-exposed children have a more negative self-concept compared to a normative sample of children?

Before receiving the trauma-focused intervention (assessment and TF-CBT), it was expected that a sample of trauma-exposed children would have a significantly more negative mean self-concept compared to that of a normative sample of children (TSCS:2 standardization sample: $M = 50.3$, $SD = 10.3$). There were two data collection time points that occurred before children received a trauma-focused intervention: pre-waitlist and pre-assessment. A Shapiro-Wilk test was performed and the distributions were found to be non-normal at pre-waitlist ($W = .754$, $p < .001$) and at pre-assessment ($W = .917$, $p < .001$). A variety of transformations were attempted (i.e., logarithmic, square root, and cube root) but all failed to normalize the sample distributions. As such, a binomial test (nonparametric test) was used for the analyses at both time points under the null hypothesis that 50% of the population of trauma-exposed children's self-concept scores would be above the normative sample mean ($M = 50.3$) and 50% would be below.

As expected, at pre-waitlist, only 6.7% ($n = 2$) of trauma-exposed children had mean self-concept scores that were above the normative sample mean, while 93.3% ($n = 28$) had mean self-concept scores that were below the normative sample mean, $z = 4.56$, $p < .001$, 95%, CI [77.9, 99.2]. Similarly, at pre-assessment, 9.4% ($n = 10$) of trauma-exposed children had mean self-

concept scores that were above the normative sample while 90.6% (n = 96) had mean self-concept scores that were below the normative sample mean, $z = 8.26$, $p < .001$, 95% CI [83.3, 95.4]. Figure 3 presents a comparison of trauma-exposed children's mean self-concept with the normative sample's mean by data collection time point.

After obtaining the results of the binomial test, this hypothesis was further tested using the trimmed mean method with a 2000 bootstrapped sample. Regardless of the percentage of trimming (i.e., 5%, 10%, 20%), the trimmed mean was significantly more negative than the mean self-concept of the normative sample (all *p's* < .001). With 20% trimming, the 95% confidence intervals for the trimmed mean at pre-waitlist was [32.88, 36.90] and at pre-assessment was [35.42, 38.27].

Question 3. Will trauma-exposed children's self-concept improve before receiving a trauma-focused intervention (during the passage of time alone)?

It was expected that a sample of trauma-exposed children's mean self-concept would not improve before receiving a trauma-focused intervention (during the passage of time alone). Negligible effect (equivalence) testing was used to evaluate whether the magnitude of the mean difference between the pre-waitlist and post-waitlist (pre-assessment) values was small enough to be considered meaningless or negligible (Martinez Gutierrez & Cribbie, 2023). This was evaluated by comparing the 100(1-2α)% confidence interval (in our case because α is .05, 90% confidence interval) for the effect to the boundaries of the negligible effect interval, with boundaries that represent the minimum meaningful effect size in either direction. This is commonly referred to as the two one-sided testing approach (Schuirmann, 1987). A review of the literature did not reveal a benchmark for a *T* score value that is small enough to be considered negligible on the TSCS:2. As such, the negligible effect interval was set at {- 3.5, 3.5} which

was about half a standard deviation of the difference between means – a method that can be used to set the interval when it cannot be obtained from the literature (Alter & Counsell, 2023; Lakens et al., 2018).

The average mean difference was found to be -2.6 (90% CI [-5.08, -0.04]), standardized mean difference (SMD) = -0.4. Unexpectedly, the 90% CI was not completely within the negligible effect interval so equivalence between pre-waitlist and post-waitlist (pre-assessment) scores was not established. The SMD corresponds to a small to moderate effect size according to Cohen's criteria (Cohen, 1988). The proportional distance (.73, 95% CI [-1.61, .11]) indicates that the effect falls 73% of the distance from 0 to the negligible effect bound.

Question 4. Will trauma-exposed children's self-concept improve after receiving a trauma-focused intervention?

It was expected that a sample of trauma-exposed children's mean self-concept would significantly improve after receiving a trauma-focused intervention. The most common statistical technique for studying within-subject factors is a repeated measures ANOVA. However, given the unequal sample sizes across the time points, the use of this analysis would have resulted in a significant loss of data (because listwise deletion is the default with most software packages). For this reason, multiple linear models were used instead. Non-mixed and mixed linear models were run, and for each model, several covariance structures were compared to determine which one best represented the association between the time points. Using Akaike's Information Criteria (AIC), a first order autoregressive heterogeneous covariance matrix was declared the best fit for the association between the time points. This was expected as time points closer to one another would be expected to be more highly correlated than those farther apart (i.e., there would be a stronger association between time points 1 and 2 compared to time points 1 and 5).

The first model was the simplest model and only had time point as a fixed effect. This model did not differentiate between the baseline or trajectory of each child's self-concept. Rather, it used the average self-concept of the group at each time point. The second model was a random intercept model which assumed that trauma-exposed children's baseline self-concepts differed from one another. The third model was a random intercept and slope model which assumed that trauma-exposed children's baseline self-concepts differed from one another and the trajectories of their change in self-concept (slopes) were different. Using the AIC, the best fit for the data was determined to be the linear mixed model with random intercepts. The assumptions of this model were met except for normality. Common transformations as well as the Box-Cox transformation did not resolve the issue. However, mixed models are relatively robust to the violation of normality (Schielzeth et al., 2020).

An omnibus *F*-test revealed significant differences between at least two of the time points, $F(3, 74) = 25.81$, $p < .01$. Post hoc analyses were conducted using pairwise comparisons to explore the significant effect observed across all five data collection time points (see Table 3). A significant improvement in mean self-concept was observed over the course of the trauma-focused intervention, from pre-assessment ($M = 38.1$) to post-therapy ($M = 45.3$). There was also a significant improvement in mean self-concept over the course of the assessment itself, from pre-assessment ($M = 38.1$) to pre-therapy ($M = 42.0$), as well as over the course of TF-CBT itself, from pre-therapy ($M = 42.0$) to post-therapy ($M = 45.3$). The significant improvement observed at post-therapy was maintained at six month follow-up ($M = 46.1$). Figure 4 presents trauma-exposed children's mean self-concept scores with 95% confidence intervals by data collection time point.

Jacobson and Truax (1991) identified two limitations of relying on statistically significant differences in intervention research. First, presenting mean scores excludes information about the within-sample variability in the response to treatment. Second, statistically significant differences in pre- and post-intervention scores does not necessarily translate to whether these changes are clinically significant or meaningful in everyday practice. The use of *T* scores enabled an evaluation of clinically significant change in trauma-exposed children's self-concept, that is, the extent to which the therapy moved a child from a clinically dysfunctional range to the clinically functional range (Jacobson & Truax, 1991). A 'cutoff point' is defined as the point that a participant must cross for a clinically significant change to have occurred (Jacobson & Truax, 1991). Trauma-exposed children moved from the clinically dysfunctional range ($T \leq 40$) to the functional range ($T > 40$) over the course of the assessment, from pre-assessment ($M = 38.1$) to pre-therapy ($T = 42.0$). They remained well within the clinically functional range afterward, and continued to show improvement throughout (see Figure 4). Further, the percentage of trauma-exposed children with a self-concept in the clinically dysfunctional range was found to decrease across time: pre-waitlist (90.0%), pre-assessment (65.1%), pre-therapy (48.7%), post-therapy (21.1%), and follow-up (8.5%). Table 4 presents the percentage of trauma-exposed children with self-concepts that improved (*T* score increased by ≥ 1), deteriorated (*T* score decreased by ≤ 1), or did not change (*T* score remained the same) over the course of assessment and TF-CBT.

Question 5. Will the significant improvement in trauma-exposed children's self-concept observed after receiving a trauma-focused intervention be maintained?

It was expected that the significant improvement observed in a sample of trauma-exposed children's mean self-concept after receiving a trauma-focused intervention would be maintained at six month follow-up. Negligible effect (equivalence) testing was used to evaluate whether the

magnitude of the mean difference between the post-therapy and follow-up was small enough to be considered meaningless or negligible. As above, this was evaluated by comparing the 100(1-2α)% confidence interval for the effect to the boundaries of the negligible effect interval. The negligible effect interval was set at {- 2.5, 2.5} which was about half a standard deviation of the difference between means (Alter & Counsell, 2023; Lakens et al., 2018). The average mean difference between post-therapy and follow-up was -1.1 (90% CI [-2.20, .07]), SMD = -0.2. The 90% CI was completely within the negligible effect interval and thus the difference between post-therapy and follow-up means can be considered negligible. The SMD corresponds to a small effect size according to Cohen's criteria (Cohen, 1988). The proportional distance (-.43, 95% CI [-1.31, .49]) indicates that the effect falls 43% of the distance from 0 to the lower bound of the negligible effect interval.

Discussion

Trauma has the potential to have a profound impact on children's self-concept. Children can develop feelings of worthlessness, responsibility for the trauma, and a deep mistrust of others (Cook et al., 2005; Kouvelis & Kangas, 2021; Turner et al., 2017). However, self-concept has also been demonstrated to be a successful target of therapeutic change with children showing improvements in their self-concept with treatment (Banz et al., 2022; Karatzias et al., 2019; Shah et al., 2011). Data from the current study were taken from the Healthy Coping Program which examined the effectiveness of TF-CBT with children in Toronto – a diverse Canadian metropolis. Previous findings from the Healthy Coping Program, and the broader literature, have primarily focused on trauma-exposed children's symptomatology and their relationships with their caregiver(s) and therapists (Cinamon et al., 2021; Konanur et al., 2015; Zorzella et al., 2015). This study built upon prior research by evaluating children's self-views; that is, their

relationship with themselves. This was done by the examination of five research questions: 1. Will there be a significant relationship between trauma-exposed children's PTS symptoms and self-concept?, 2. Will trauma-exposed children have a more negative self-concept compared to a normative sample of children?, 3. Will trauma-exposed children's self-concept improve before receiving a trauma-focused intervention (during the passage of time alone)?, 4. Will trauma-exposed children's self-concept improve after receiving a trauma-focused intervention?, and 5. Will the improvement in trauma-exposed children's self-concept observed post-treatment be sustainable?

Previous research has found a significant negative relationship between trauma-exposed children's PTS symptoms and self-concept (Reyes, 2008; Runyon et al., 2009). In the current study, it was expected that there would also be a significant negative correlation between mean PTS symptoms and mean self-concept. As expected, a significant negative relationship was found at pre-waitlist, pre-assessment, and pre-therapy. This finding suggests trauma-exposed children's view of themselves is adversely affected by their experience of PTS symptoms or that children with a negative view of themselves are more vulnerable to the development of PTS symptomatology. In other words, pre-TF-CBT, trauma-exposed children's self-concept is strongly tied to a manifestation of PTS symptoms (and vice versa), although, the strength of this relationship diminishes over the course of the assessment. Unexpectedly, a nonsignificant relationship was found between trauma-exposed children's PTS symptoms and self-concept post-TF-CBT and at six month follow-up. This finding may suggest that as trauma-exposed children are educated and come to understand that their PTS symptoms are a normal response to their traumatic experience, over the course of the assessment and TF-CBT, their self-concept is no longer as affected by their PTS symptoms (and vice versa). Perhaps, the 'grip' that these

variables have on one another goes away as children attain a more positive view of themselves and learn that they are not defined by their trauma. The weakened relationship between self-concept and PTS symptoms observed post-therapy was also observed six months after therapy had ended demonstrating the lasting benefit of TF-CBT on improving both of these outcomes in trauma-exposed children.

Previous research has found that children's self-concept can be significantly negatively impacted by trauma exposure (Cavaiola & Shiff, 1989; Cook et al., 2005; Gewirtz-Meydan, 2020; Godsall et al., 2004; Harter, 2012; Karatzias et al., 2019; Kouvelis & Kangas, 2021; Shavelson et al., 1976). It was expected that trauma-exposed children would have a significantly more negative mean self-concept compared to that of a normative sample of children (with average self-concept) before receiving a trauma-focused intervention. As expected, trauma-exposed children had a significantly more negative mean self-concept compared to the normative sample. In addition, trauma-exposed children's mean self-concept was in the clinically dysfunctional range in comparison to the normative sample. These findings suggest that in addition to more widely studied areas that are impacted by trauma such as neurobiology, behaviour, and parenting stress, trauma-exposed children's view of themselves (their self-concept) is another area that suffers in the aftermath of trauma. Furthermore, trauma-exposed children hold significantly more negative views of themselves to the extent that these views are clinically concerning.

In contrast, previous research has found that children's self-concept can improve with treatment (Banz et al., 2022; Culp et al., 1991; Karatzias et al., 2019; Nguyen et al., 2022; Shah et al., 2011). It was expected that a significant improvement in trauma-exposed children's self-concept would be observed after they received trauma-focused intervention. As expected, a

significant improvement in children's mean self-concept was observed from pre-assessment to post-therapy, with 84.2% of the sample showing statistically significant improvement, and 50.9% showing clinically significant improvement (i.e., movement from clinically dysfunctional range to clinically functional range). Children's self-concept also significantly improved over the course of TF-CBT itself, from pre-therapy to post-therapy. These findings lend support to research that has found TF-CBT to be effective in significantly improving self-concept in trauma-exposed children. Consistent with Muller (2018), as children opened up, shared their traumatic experiences, and learned skills on how to manage their trauma-related thoughts and feelings, within the context of TF-CBT, they started to feel better about themselves. It has been stated that a negative self-concept dissolves positive thinking and enhances overwhelming feelings of failure (Rohmalimna et al., 2022). This finding underscores the importance of understanding how children view themselves in the context of healing after trauma exposure.

The finding that a significant improvement in mean self-concept was observed even during the assessment itself is also important. Specifically, 71.8% of trauma-exposed children showed improvement and 34.6% showed clinically significant improvement from pre- to post-assessment. The TF-CBT manual indicates that there is exposure to elements of the TF-CBT model during the assessment itself (Cohen et al., 2006). For example, the assessment process involved a degree of psychoeducation about trauma and normalizing of the child and caregivers' responses to the traumatic event. Interviews with the child and caregiver about the trauma also represent gradual exposure to the trauma – a core aspect of TF-CBT. This finding suggests that these TF-CBT components may be especially useful in shifting trauma-exposed children's negative views of themselves. Gradual exposure to the trauma during the assessment also provides an opportunity to lay the foundation for a good therapeutic alliance, a central aspect of

TF-CBT which is very important for enhancing safety. As Cook and colleagues (2005) noted, effective intervention for trauma includes an assessment. Furthermore, this finding may underscore the importance of early clinical interactions. What may have been conceptualized as an assessment may nevertheless may have yielded measurable therapeutic benefits.

Previous research has found that posttraumatic outcomes for trauma-exposed children do not improve during the passage of time alone (Konanur et al., 2015). It was expected that trauma-exposed children's mean self-concept would not improve while they waited three months for the trauma-focused intervention (assessment and TF-CBT). The current study could not decisively conclude that the mean difference in scores from pre-waitlist to post-waitlist (pre-assessment) was small enough to be meaningless. It is possible that these results are unreliable due to a small sample size which made it difficult to detect equivalence (Alter & Counsell, 2023). Alternatively, it is also possible that the act of initiating intervention (by being placed on the waiting list) instilled hope in families to the extent that there was some initial improvement in self-concept. Although it is important to note that, this initial improvement in self-concept was neither statistically nor clinically significant.

In comparison, a negligible difference in trauma-exposed children's self-concept was found between post-therapy and six month follow-up. The improvement in self-concept observed post-intervention was maintained six months after TF-CBT had ended. This suggests that trauma-exposed children continue to maintain a positive view of themselves even after they had settled back into their daily lives. Again, this is consistent with previous research which has found that improvements observed after children had completed TF-CBT were maintained at three, six, and twelve months after therapy had ended (Cowles & Davis, 2017; Jensen et al., 2017; Mannarino et al., 2012).

Clinical Implications

The findings of the current study are clinically valuable. This study was conducted in a culturally diverse Canadian city. The diversity inherent in the child, caregiver, and therapist samples suggests that TF-CBT may be successfully applied to diverse populations and by therapists with varying clinical experience and theoretical orientations. This variability also contributes to the ecological validity of these research findings.

A significant negative relationship was observed between trauma-exposed children's self-concept and PTS symptoms before receiving a course of TF-CBT. This finding may suggest that targeting trauma-exposed children's self-concept early in the therapeutic process has the potential to improve their PTS symptoms (and vice versa). In addition to the commonly administered posttraumatic symptom measures, clinicians may consider administering the TSCS:2 as a standard practice when conducting an assessment. This would support discussions with children on how they view themselves in relation to their traumatic experiences and support self-reflection and introspection. In contrast, trauma-exposed children's self-concept was found to have a nonsignificant relationship with PTS symptoms at post-therapy and six month follow-up suggesting that these outcomes are no longer strongly tied to one another. It would still be important for clinicians to administer posttraumatic symptom and self-concept measures at the end of therapy to assess whether children who continue to report a clinically problematic self-concepts and/or PTS symptoms could benefit from booster sessions post-treatment. It is especially important in community-based settings not to only rely on an intervention's strong research support but to evaluate whether the intervention was a good "fit" (Rubin et al., 2017).

Trauma-exposed children were found to have significantly more negative self-concepts compared to a normative sample of children before starting the trauma-focused intervention.

Although, there was an initial improvement in trauma-exposed children's self-concept (if this was not due to a small sample size) during the three month wait for the intervention, this improvement observed during this passage of time alone was not clinically significant (i.e., trauma-exposed children's self-concept remained in the clinically dysfunctional range during this period). This finding is especially concerning given that for the majority of children in the Healthy Coping Program considerably more time than three months had elapsed since their traumatic exposure (77.5%). This means that these children held significantly negative views of themselves for months before accessing therapeutic intervention.

Children's Mental Health Ontario (2020) reported that children in the province waited as long as two-and-a-half years to receive mental health treatment and that waiting lists for intervention had more than doubled in the two years prior. Thus, trauma-exposed children with poor self-concepts are spending long periods waiting for intervention. In a country that purports to prioritize child welfare, the clinical implications of this finding call for change on a policy level regarding accessibility of children's mental health services, particularly for families accessing free services at community-based agencies due to financial limitations. To address barriers to access due to limited resources related to staffing and training, governments on all levels must re-evaluate the allocation of funds to treatment provision for trauma-exposed children. Furthermore, community members must also revisit the reasons that mental health services for children are not covered by current healthcare plans and advocate strongly for systemic change.

In contrast, in addition to being able to formulate recommendations for treatment, the significant improvement in trauma-exposed children's self-concept during the assessment itself underscores the impact of this initial stage of trauma-focused intervention and suggests that even

some exposure to the TF-CBT components effects meaningful change. A survey of 132 mental health clinicians in children's advocacy centres across the United States found that one of the most preferred components used and implemented was psychoeducation (Allen & Johnson, 2012). Children and caregivers may benefit from gradual exposure to speaking about traumatic experiences through periodic psychoeducational sessions, with the goal of normalizing children's trauma-related thoughts, feelings, and behaviours, while awaiting therapeutic intervention. As caregivers play a significant role in the formation of children's self-concept, sessions on parenting skills may be helpful during this time as well (Rohmalimna et al., 2022).

Prior research has found that significant proportions of participants experiencing PTSD withdraw from treatment (Brant et al., 2007; Schottenbauer et al., 2008). The finding that withdrawal from the trauma-focused intervention was most frequent at pre-assessment suggests that attempts to identify families who are not yet ready to engage in treatment early on may minimize disengagement. McKay & Bannon (2004) discuss the importance of identifying both attitudinal and practical barriers before a family has started therapeutic services. Check-ins with families about these barriers upon referral may help to engage families. For example, families who may worry that having their children talk about their traumatic experiences will only heighten their posttraumatic symptoms can receive guidance. Practical solutions such as providing evening and weekend sessions to accommodate those families who cannot attend daytime sessions due to school and/or work are also critical. Anecdotal comments from the therapists in this study revealed that providing tangible research results demonstrating the effectiveness of TF-CBT supported efforts to engage families in the trauma-focused intervention. Therefore, in the Healthy Coping Program, a brochure was created and disseminated to families

upon referral to agencies with the intent of reinforcing the effectiveness of TF-CBT. Agencies treating trauma-exposed children may consider doing the same.

Finally, an indirect benefit of the Healthy Coping Program was the development of a community of practice across the city. Therapists involved in the research study met regularly over the course of the Healthy Coping Program to obtain clinical consultation on TF-CBT research cases. Peer consultation allowed less experienced therapists to benefit from the expertise of more experienced therapists. It also enabled the exchange of ideas. For example, therapists often shared unique ways of completing the trauma narrative such as creating an art project or using a software program to create a comic book. The Healthy Coping Program also supported case consultation from model experts. The promotion of city-wide opportunities for TF-CBT training increased the capacity of children's mental health centres to offer an evidence-based practice to trauma-exposed children. Additionally, it can be difficult for therapists to assess whether the intervention they are providing to families are having the desired effect of improving the lives of the children they are treating. It may be even more challenging for them to know whether observed therapeutic gains continue to have a lasting effect following treatment cessation. The findings of the current study helped to reinforce the good work done by the therapists and families who participated.

Limitations and Future Directions

There are several limitations of the current study that are noteworthy and which present opportunities for future studies. Amongst studies of trauma-exposed children, self-concept research has tended to focus on abused children (Kouvelis & Kangas, 2021; Okunlola et al., 2021; Murthi et al., 2006; Reyes, 2018; Runyon et al., 2009; Turner et al., 2009). Although referral trauma was not entirely limited to maltreatment experiences, the majority of children

sampled in the current study were ultimately referred for abuse (specifically sexual abuse). It has been found that not all types of trauma are associated with the same outcomes. For example, sexually abused children demonstrated more internalizing and externalizing behaviour problems over time compared to non-sexually abused maltreated children (Lewis et al., 2016). It is important for future studies to focus on effects of other potential types of traumatic experiences (e.g., divorce/separation, war/conflict, natural disasters, etc.) on self-concept.

Second, the current study extended research on TF-CBT by capitalizing on Toronto's heterogeneous population. Although the samples were diverse with respect to families' ethnic backgrounds, there were insufficient numbers to conduct a meaningful analysis of whether children's self-concept was affected by their ethnic background. A meta-analysis conducted by Zhang and colleagues (2022) found that self-esteem in participants from Asian countries was more negatively affected by traumatic experiences than their counterparts from North America. They proposed that this may be due to the tendency for collective cultures to engage in interdependent self-construction, meaning their views of themselves are more dependent on their experiences with others (Markus & Kitayama, 1991; Zhang et al., 2022). In contrast, Engelbrecht & Jobson (2020) found that British students exposed to trauma had poorer self-concepts whereas this association did not occur with Asian students. Including a cross-cultural analysis as part of the study goals a priori would help future studies explore these types of research questions and further inform TF-CBT's application with diverse populations.

A third limitation of the current study was measuring trauma-focused children’s global self-concept rather than their ratings of how they felt themselves in the different subdomains of self-concept (e.g., physical, moral, personal, family, social, and school). By doing so, therapists would have been able to better individualize their therapeutic approach to the child’s needs,

within the context of TF-CBT. For example, a therapist who uncovered that a child's self-concept was especially negative in the academic domain may choose to invest additional efforts in intervening with teachers and other school staff on their behalf or engage in more parent-child sessions with a child have a negative family self-concept.

A fourth limitation was a lack of emphasis on the formal collection of qualitative data. Although psychometrics are recommended for the assessment of treatment effectiveness (Briere, 2001), the use of a formal method for gathering qualitative data may have provided unique insights unable to be captured by quantitative methods. For example, coordination of the research study involved frequent contact with therapists. This contact often led to candid conversations about the challenges they encountered while implementing TF-CBT, including: adhering to a manualized approach rather than being able to integrate a combination of TF-CBT and their personal style (e.g., psychodynamic approach); having trouble implementing the model components (e.g., cognitive component of the TF-CBT model with a seven year old); and coping with challenging caregivers. Formal documentation of this information would help therapists to troubleshoot real-world issues that may arise when providing treatment.

Finally, the reasons for participant attrition were often gleaned during informal conversations with therapists when scheduling data collections or at clinical consultation meetings. Our program did not document this information in a formal or consistent manner. A study examining caregiver factors contributing to attrition from TF-CBT found that caregivers' attitudes toward therapy, parenting stress, and trauma history were predictors of accessing and completing the treatment (Lai et al., 2019). If we had obtained this type of information from our participants (e.g., feedback questionnaire) we may have been able to address their concerns and

improve participant retention. Future studies should afford a greater emphasis on evaluating those aspects of the research program and trauma-focused intervention that led to attrition.

Conclusion

Literature on the effectiveness of TF-CBT in improving trauma-exposed children's self-concept is limited. The current study built upon this research by examining the role of self-concept before and after participation in a trauma-focused intervention, including assessment and TF-CBT, in a diverse Canadian city. The study yielded several important findings. First, trauma-exposed children's mean self-concept was found to have a negative relationship with PTS symptoms before the completion of TF-CBT. In contrast, self-concept had a nonsignificant relationship with PTS symptoms at post-therapy and follow-up suggesting that as trauma-exposed children's move through an assessment and treatment, their self-concept is decreasingly affected by their PTS symptoms (and vice versa). Second, pre-intervention, trauma-exposed children were found to have a significantly more negative mean self-concept compared to a normative sample of children adding to research on the adverse effects of trauma on how trauma-exposed children view themselves. Finally, participation in a trauma-focused intervention significantly improved trauma-exposed children's self-concept, and this improvement was maintained six months after treatment had ended. Furthermore, trauma-exposed children's mean self-concept moved from a clinically dysfunctional range to the functional range from pre-assessment to post-assessment (pre-therapy) with even more improvement in self-concept observed over the course of TF-CBT. This indicates that trauma-exposed children began to view themselves in a way that was comparable to their same-aged peers over the course of the intervention, and that this therapeutic gain was maintained months after treatment had ended.

The findings of the current study highlight the importance of considering the impact of traumatic experiences on children's self-concept in addition to the focus that has already been placed on posttraumatic symptomatology and the child's relationships with others (e.g.,

caregivers, therapists, etc.). The finding that trauma-exposed children are suffering with clinically dysfunctional views of themselves, while being placed on long waiting lists for services in community-based settings, speaks to the critical need to have a public policy which prioritizes the provision of both effective and expedient trauma-focused treatment. These findings also add support to the effectiveness of TF-CBT in improving self-concept in trauma-exposed children, and how service providers may optimize treatment for these children.

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Table 1

Sample Sizes, Ranges, Means, and Standard Deviations for Trauma-Exposed Children's PTS Symptoms by Time Point

	Pre-waitlist *n* = 30	Pre-assessment *n* = 106	Pre-therapy *n* = 78	Post-therapy *n* = 57	Follow-up *n* = 47
Min	35.0	35.0	35.0	35.0	35.0
Max	76.0	80.0	82.0	78.0	80.0
M	54.7	52.9	50.6	47.5	46.7
SD	12.1	12.0	12.2	9.1	11.1

Note. Ranges, raw means, and standard deviations are presented as *T* scores. *T* scores on the TSCC range from 35 to 105 and those that are ≥ 60 are clinically concerning.

Table 2

Sample Sizes, Ranges, Means, and Standard Deviations for Trauma-Exposed Children's Self-Concept by Time Point

	Pre-waitlist *n* = 30	Pre-assessment *n* = 106	Pre-therapy *n* = 78	Post-therapy *n* = 57	Follow-up *n* = 47
Min	29.0	28.0	33.0	35.0	36.0
Max	61.0	60.0	59.0	67.0	64.0
M	36.2	38.1	41.9	45.2	45.8
SD	6.4	7.5	5.4	6.7	5.3

Note. Ranges, raw means, and standard deviations are presented as *T* scores. *T* scores on the TSCS:2 range from 20 to 80 and those that are ≤ 40 are clinically concerning.

Table 3

Pairwise Comparisons of Trauma-Exposed Children's Self-Concept by Time Point

		MD	*df*	*p*	*Lower Bound*	*Upper Bound*
Pre-waitlist	Pre-assessment	-1.6	44.9	.198	-4.2	.9
	Pre-therapy	-5.6*	35.5	< .001	-8.0	-3.1
	Post-therapy	-8.8*	43.6	< .001	-11.5	-6.2
	Follow-up	-9.7*	35.6	< .001	-12.2	-7.2
Pre-assessment	Pre-therapy	-3.9*	124.6	< .001	-5.6	-2.2
	Post-therapy	-7.2*	110.4	< .001	-9.2	-5.1
	Follow-up	-8.0*	98.2	< .001	-9.9	-6.2
Pre-therapy	Post-therapy	-3.3*	78.1	< .001	-5.0	-1.5
	Follow-up	-4.1*	64.5	< .001	-5.7	-2.5
Post-therapy	Follow-up	-.9	49.1	.344	-2.6	.9

Note. * $p < .001$ and are based on estimated marginal means.

Table 4

Changes in Trauma-Exposed Children's Self-Concept

	Assessment	Assessment & TF-CBT
Improved	71.8	84.2
dysfunctional → functional	34.6	50.9
functional → more functional	7.7	19.3
dysfunctional → less dysfunctional	29.5	14.0
Deteriorated	25.6	14.1
functional → dysfunctional	17.9	5.3
functional → less functional	6.4	7.0
dysfunctional → more dysfunctional	1.3	1.8
No change	2.6	1.8
functional = functional	2.6	1.8
dysfunctional = dysfunctional	0.0	0.0

Note: Percentage of trauma-exposed children with self-concepts that improved (*T* score increased by ≥ 1), deteriorated (*T* score decreased by ≤ 1), or did not change (*T* score remained the same) over the course of the assessment and TF-CBT.

Figure 1

Sample Sizes, Exclusions, and Withdrawals in the Healthy Coping Program

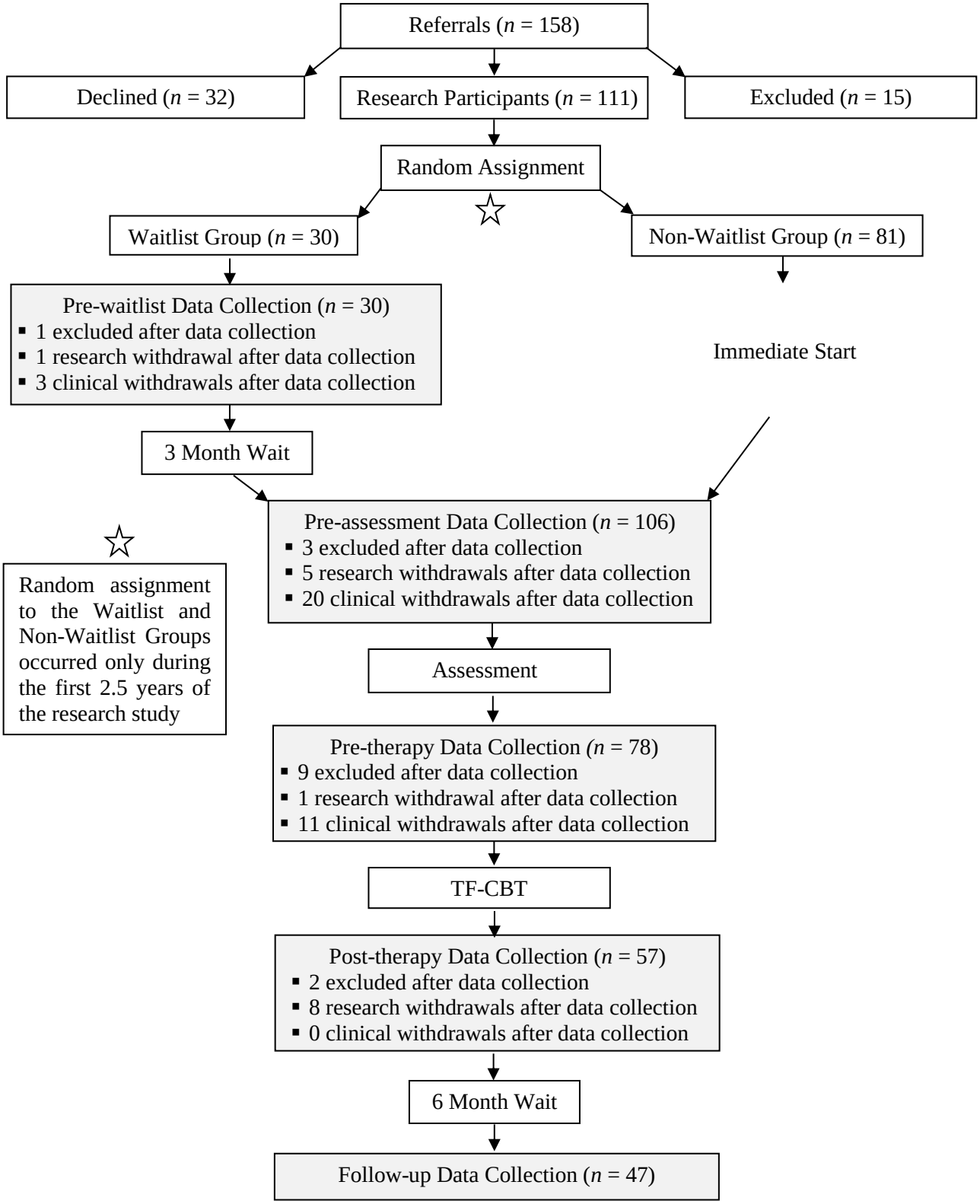

Figure 2

Percentage of Withdrawals from the Research Study vs. Trauma-Focused Intervention by Time Point

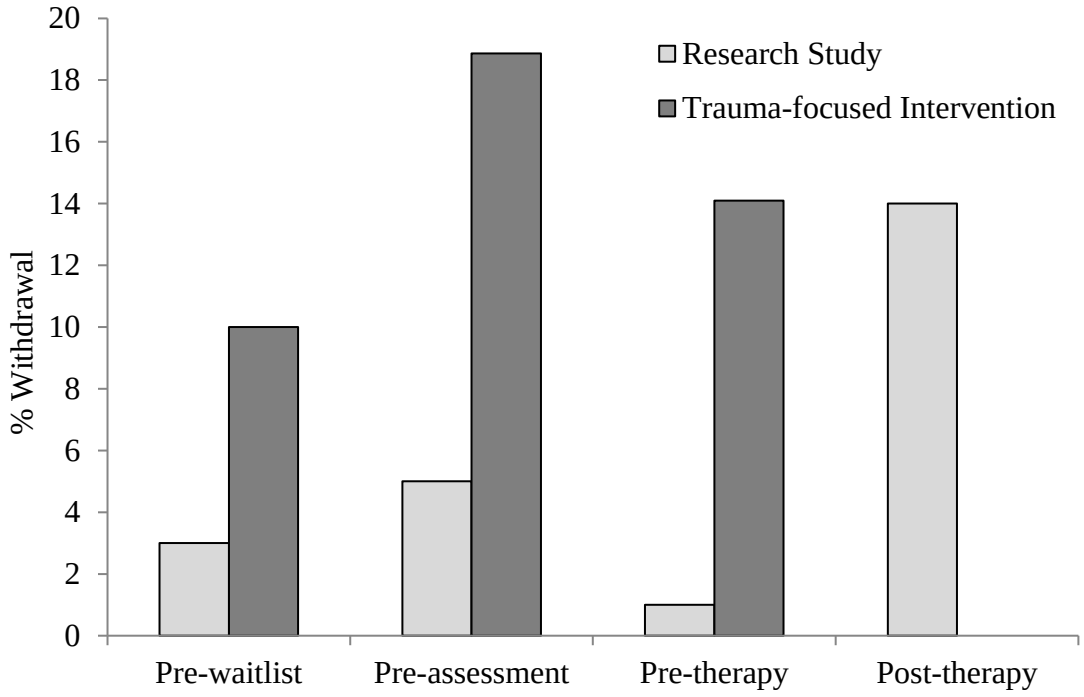

Figure 3

A Comparison of Trauma-Exposed Children's Mean Self-Concept with the Normative Sample's Mean Self-Concept by Time Point

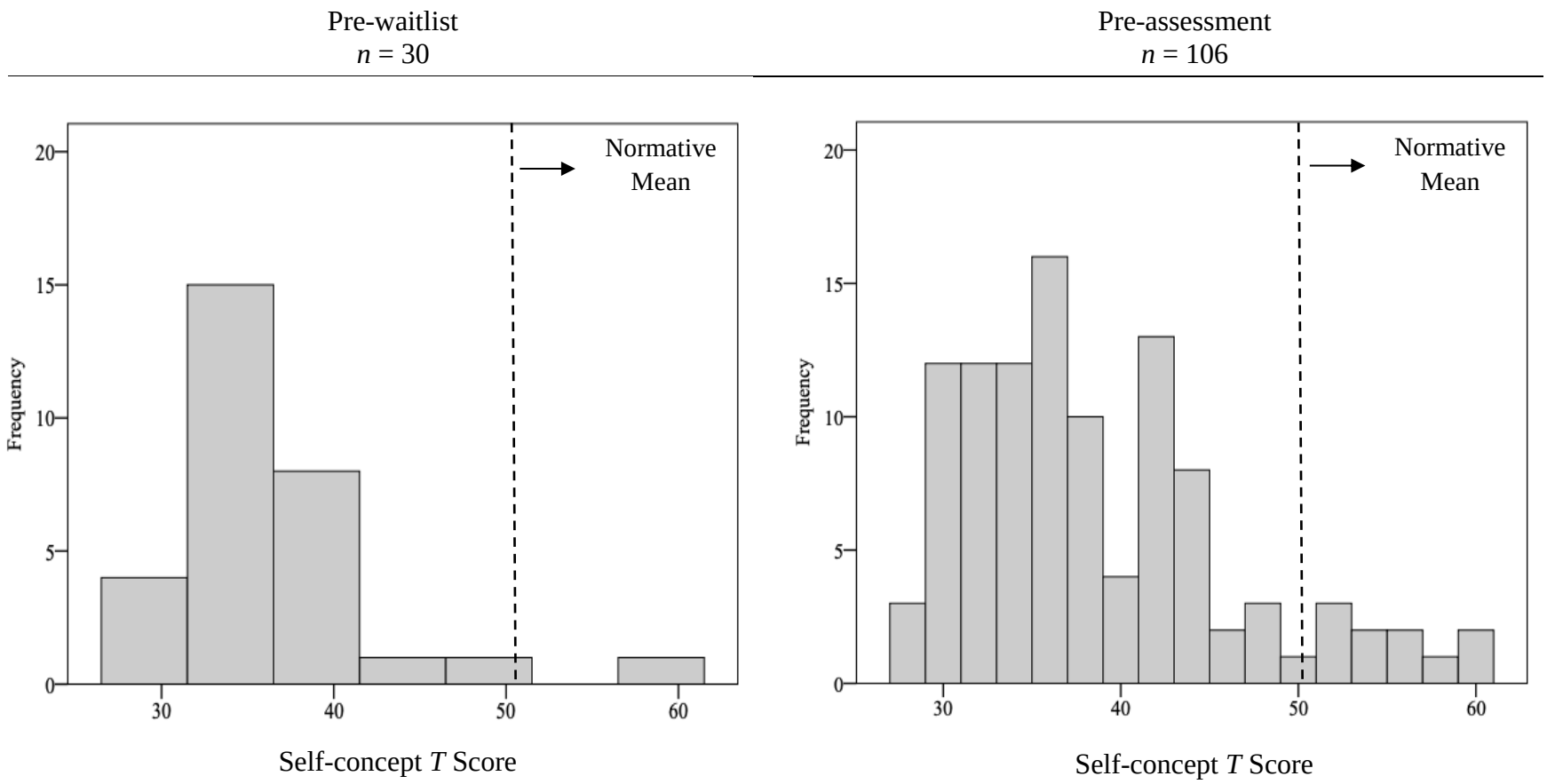

Figure 4

Trauma-Exposed Children's Mean Self-Concept with 95% Confidence Intervals by Time Point