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War in the nursery: The impact of transgenerational trauma on refugee infant development

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WAR IN THE NURSERY: THE IMPACT OF TRANSGENERATIONAL TRAUMA ON REFUGEE INFANT DEVELOPMENT

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Abstract

Parental trauma symptomatology can profoundly impact a child's social/emotional and cognitive development, a phenomenon known as transgenerational trauma. Thus far, the majority of research examining transgenerational trauma has studied the concept within mothers from Westernized cultures and their children and adolescents. Very little attention has been given to families from diverse sociocultural contexts, and few studies have examined the effects of transgenerational trauma in infancy, a period of time marked by numerous developmental considerations. The current study addresses the limitations of past work by examining transgenerational trauma in refugee/infant dyads. Building upon existing models from previous studies, this research utilizes moderated mediation models to examine (1) the relation between maternal trauma symptomatology and atypical parenting behavior in predicting infant development, (2) the mediating role of atypical parenting behavior in the relation between maternal trauma symptomatology and infant development, and (3) the role of parental resiliency in mitigating the relation between maternal trauma symptomatology and atypical parenting behaviors. Data was collected from 61 refugee mother/infant dyads. Measures included culturally informed assessment of maternal trauma symptomatology, emotion-focused coping, problem-focused coping, psychological flexibility, observational coding of atypical parenting behaviors, and standardized assessment of infant cognitive and social/emotional development. Findings did not provide support for the hypothesized model of transgenerational trauma. Post-hoc analyses indicated that greater maternal trauma symptomatology is related to increased negative/intrusive parenting behavior, and increased maternal psychological flexibility is related to improved infant cognitive development. Implications for study findings are reviewed and directions for future research are delineated.

Dedication

This dissertation is dedicated to my son, Mason Philip William Brassell and my husband, Thomas Brassell.

Mason, you have taught me more about infant development, parenting, and love than any journal article ever could. Although completing this dissertation has been a big achievement, you are my greatest accomplishment. With your gregarious spirit, inquisitive mind, kind heart, and joyful nature, I know that you are going to make a big impact in the world. I love you.

Thomas, you have been my rock and soft landing throughout my graduate school career. Among the many sacrifices you have made for me to get to this point, I am forever grateful that you moved with me to the frozen tundra, listened to hours of my motivational writing music, and suffered through years of editing my papers. You should really get an honorary Ph.D. for your work in helping me get this far, but I guess this dedication will have to suffice.

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Introduction

Parental psychosocial functioning can have a profound impact on child adjustment and development (Hails, Reuben, Shaw, Dishion, & Wilson, 2017; Murray & Cooper, 1997; Zeanah, 2009). This association is quite salient within the context of parental trauma whereby children of trauma survivors demonstrate poorer social, emotional, and cognitive outcomes when compared to their typically-developing peers. Specifically, in comparison with those who have parents without a trauma history, children of trauma survivors demonstrate increased depressive symptoms (Yehuda, Halligan, & Bierer, 2001), symptoms of posttraumatic stress disorder (PTSD; Daud, Skoglund, & Rydelius, 2005), behavioral challenges (Ahmadzadeh & Malekian, 2004), and poorer cognitive and academic outcomes (Daud, af Klinteberg, & Rydelius, 2008; J. Davidson, Smith, & Kudler, 1989). The transmission of trauma symptoms and impairments from parent to child, known as transgenerational trauma, has been found to occur for up to three generations in a primary survivor's lineage (Lev–Wiesel, 2007; Sack, Clarke, & Seeley, 1995).

The vast majority of work investigating transgenerational trauma has focused on Westernized populations that have undergone a single type of trauma (Frazier, West-Olatunji, St Juste, & Goodman, 2009; Lyons-Ruth & Block, 1996; Noll, 2005). Very little attention has been given to populations that originate from differing sociocultural contexts and those that have experienced unrelenting and numerous traumas (e.g., surviving genocide). Further, few studies have evaluated transgenerational trauma in infancy, a developmental period where critical developmental milestones occur. In order to address the limitations of past work, the focus of the current study was to examine

transgenerational trauma and its mechanisms of transmission within refugee mother/infant dyads. Work investigating the impact of trauma in refugee families is particularly warranted due to the growing population and the lack of culturally responsive programming, both of which will be further described below.

Refugee Background

Due to the current occurrence of war, political conflict, and breakdowns in civil order there has been a substantial rise in the number of refugees worldwide. As of 2016, there were 65.6 million refugees across the globe; this number continues to increase as an estimated 20 people are forced to flee their homes each *minute* in order to escape war and persecution (UNHCR, 2017). Along their journey to resettlement, refugees typically encounter numerous traumas and hardships. In their native countries, refugees are generally exposed to sociopolitical warfare and persecution (Berman, 2001), including bodily injury, rape, the witness of murder, imprisonment, and torture (Mollica, McDonald, Massagli, & Silove, 2004). While escaping persecution from their native countries, refugees often encounter dangerous travel circumstances, including a lack of food, shelter, and adequate medical care (Ayotte, 2001; Fazel & Stein, 2003). Finally, once resettled, refugees are met with the challenge of establishing a new life while adjusting to the loss of their countries of origin and adapting to an environment that has differing norms, language, political configurations, and social structures (Bracken & Petty, 1998). Not surprisingly, the culmination of the trauma and hardships encountered by refugees throughout their preflight, flight, and resettlement experiences often results in the manifestation of psychosocial difficulties, most commonly in the form of post-

traumatic stress (Fazel, Wheeler, & Danesh, 2005; Karunakara et al., 2004; Silove, Steel, McGorry, Miles, & Drobny, 2002).

Despite the frequent occurrence of psychosocial challenges in the refugee population, refugees seeking mental health services may be at risk of receiving culturally unresponsive practices. This unfortunate experience is a result of the fact that the majority of the current evidence-based treatments originate from work with Western populations that endorse differing cultural norms and have different trauma contexts than refugees. As a result, these treatments may be inadequate in addressing the difficulties experienced by refugees and may potentially lead to poor treatment outcomes and reduced retention rates (Watters, 2001). Given such consequences, there is a need for researchers to examine psychological difficulties and outcomes specific to the refugee population in an attempt to build a literature of culturally responsive mental health service provisions for refugees.

Transgenerational Trauma

Although there are many aspects of the refugee experience that remain understudied, perhaps one of the most pressing is transgenerational trauma. A large proportion of refugees move to their host country with their families and continue to have children once resettled. Given the growing population of refugee families, in conjunction with the fact that transgenerational trauma can permeate for three generations (Sack et al., 1995), the potential impact of this form of trauma is a growing concern for mental health practitioners. However, like other areas of mental health, much of the work in transgenerational trauma has focused on Western populations (Ahmadzadeh & Malekian, 2004; Frazier et al., 2009; Noll, 2005). Although this literature serves as a valuable guide

to inform research on transgenerational trauma within refugee families, further investigation into the unique factors contributing to this form of trauma in refugee families is important to the development of effective interventions.

To date, much of our current understanding of transgenerational trauma originates from research on children of veterans (Ahmadzadeh & Malekian, 2004; Davidson & Mellor, 2001) and single-type trauma survivors (Frazier et al., 2009; Lyons-Ruth & Block, 1996; Noll, 2005). This research has found that the offspring of trauma survivors demonstrate increased depression and anxiety (Leen-Feldner, Feldner, Bunaciu, & Blumenthal, 2011), symptoms of posttraumatic stress (Davidson & Mellor, 2001), and behavioral challenges (Ahmadzadeh & Malekian, 2004) when compared to similarly matched peers. It is important to note that this pattern of trauma transmission is predominately observed in families in which a parent exhibits elevated levels of trauma symptomatology (Van Ijzendoorn, Bakermans-Kranenburg, & Sagi-Schwartz, 2003). This suggests that it is not the parent's direct experience of a traumatic event that causes transgenerational trauma, but rather it is the manifestation of the trauma symptomatology that is the significant contributor. This finding is further supported by the seminal work of transgenerational trauma, which indicated that children of Holocaust survivors only exhibited poorer outcomes when their parents had elevated symptoms of PTSD (Van Ijzendoorn et al., 2003).

Transgenerational Trauma in Refugee Families

Interestingly, it has been theorized that transgenerational trauma may be more pronounced in refugee families (Field, Muong, & Sochanvimean, 2013). Specifically, refugees tend to originate from populations that have been subjected to generations of

discrimination, poverty, and violence. This, in conjunction with the complexity of trauma encountered throughout the resettlement experience, results in refugees being more susceptible to poorer mental health outcomes than other trauma populations studied (Field et al., 2013). Although very few studies have investigated transgenerational trauma within the refugee population, those that have been conducted have overwhelmingly supported the occurrence of this phenomenon (Dalgaard, Todd, Daniel, & Montgomery, 2016; Daud et al., 2008; Daud et al., 2005; Field et al., 2013; Sack et al., 1995; van Ee, Kleber, & Mooren, 2012). For example, studies utilizing broad age samples (i.e., including youth from childhood through adolescence) have demonstrated that parental trauma symptomatology is related to negative cognitive and psychosocial outcomes for refugee offspring. For example, Daud and colleagues (2005; 2008) found that children (aged 6 – 17 years) whose parents had endured torture demonstrated greater externalizing behavior, anxiety, symptoms of post-traumatic stress, and poorer verbal performance and full-scale intelligence quotients than similarly matched children from families without a history of torture. Similarly, Song and colleagues (2013) provided support for transgenerational trauma and specifically found that children (aged 4 -15 years) of parents who were former child soldiers exhibited greater conduct problems, poorer coping skills, and strained family relations when compared to children whose parents did not have such a history.

Though studies utilizing broad age samples have provided support for transgenerational trauma in refugee families and families in post-conflict settings, they have presented contrasting support for some specific child outcomes. For example, in samples where the mean age was older (i.e., 12 years; Daud et al., 2008; Daud et al.,

2005), support for the association between parental trauma and child internalizing difficulties was found; however, this was not the case in a study where the mean age of children was relatively younger (i.e., 9 years; Song et al., 2013). Beesdo, Knappe, and Pine (2009) suggested that the discrepant findings could be because internalizing difficulties increase with age, suggesting that in relatively younger samples, internalizing difficulties may not be as prevalent. To account for such developmental considerations, it may be more beneficial to examine transgenerational trauma within more narrowly-defined samples across developmental stages.

To date, few studies have investigated transgenerational trauma in refugee families within specified developmental periods. Those that have been conducted have included developmentally informed outcome measures and have provided support for the occurrence of transgenerational trauma. For example, Field and colleagues (2013) focused on the effects of transgenerational trauma on refugee adolescents' internalizing behavior given the developmental relevance of such challenges. The researchers found that mothers' posttraumatic stress symptoms were positively associated with adolescent symptoms of depression and anxiety. Similarly, van EE and colleagues (2012) examined transgenerational trauma within the context of early childhood (aged 1.5 – 3.5 years) utilizing age-appropriate measures of development and functioning. The researchers found that greater maternal posttraumatic stress was associated with poorer general psychosocial functioning for the child but did not establish a relation to cognitive development, which could be due to the verbal instructions of the cognitive assessment being standardized in the children's non-native language. Targeted assessment and study design, as included in the aforementioned studies, can increase the validity and

interpretability of findings, and thus further work investigating transgenerational trauma at varying developmental periods is needed.

Thus far, studies have not examined the effects of transgenerational trauma in refugee infants. Such work is particularly warranted as infancy is a period marked with several unique developmental considerations that may be particularly sensitive to the effects of transgenerational trauma (Zeanah, 2009). Specifically, during the first year of life, there is rapid neuronal development throughout the brain (Mundkur, 2005). The development of neuronal connections and brain structures is greatly affected by numerous sensitive periods wherein aspects of the infant's environment can promote or inhibit brain development including anatomical, metabolic, and physiological growth (Sheridan & Nelson, 2009). Related to transgenerational trauma, one such aspect that can inhibit an infant's neuronal development is a parent's psychosocial functioning. For example, infants with depressed mothers experience a reduction of the synapses in their left prefrontal cortex, an area of the brain associated with positive approach behavior. Not surprisingly, these structural changes are related to functional impairment for the infant, including delays in social/emotional and cognitive functioning (Dawson, Hessl, & Frey, 1994; Sheridan & Nelson, 2009). Given the impact of early experiences on the developing infant, it is imperative to better understand the impact of parental trauma in refugee infants.

A better understanding of the role of transgenerational trauma in refugee mother/infant dyads could lead to the identification of early intervention points that may potentially mitigate the later effects of this phenomenon throughout development. Thus, the focus of the current study will be to examine this gap in the literature by specifically

exploring the impact of maternal trauma on infant development within refugee families. Though there are many facets of infant development, the current study will focus on social/emotional and cognitive functioning given their particular relevance to transgenerational trauma and parental psychosocial functioning (Daud et al., 2008; Daud et al., 2005), which will be described in further detail below.

Social/Emotional Development

Prior to delineating how transgenerational trauma may impact infants' social/emotional development, it is important to first examine how this developmental system unfolds. At birth, infants have a limited ability to express and regulate their emotional states. The innate expression of what is perceived as emotion in a newborn infant (i.e., crying) is in actuality biological signals indicating the need for protection or care (Rosenblum, Dayton, & Muzik, 2009). In the first several months of life, however, infants' social/emotional capacities rapidly progress. By two months, infants already have the ability to engage in social smiles and express true positive emotional states (Rosenblum et al., 2009). By six to seven months, infants demonstrate indicators of more complex social/emotional states, including jealousy, anger, and preference for a caregiver (Hart, Carrington, Tronick, & Carroll, 2004). The successful development of these social/emotional abilities, however, can be greatly influenced by numerous environmental factors.

Perhaps one of the most important environmental factors that contribute to social/emotional development is infant interaction with their caregivers (Gergely & Watson, 1996; Main & George, 1985; Spinrad & Stifter, 2006). Specifically, infants learn to express and regulate their own emotions by modeling their caregiver's emotional

expressions, through affective inductions of their caregiver's emotional experience, and by social referencing their caregiver (Rosenblum et al., 2009; Stern, Hofer, Haft, & Dore, 1985; Termine & Izard, 1988; Thompson, 1991). To further understand how these learning processes may contribute to transgenerational trauma, it will be helpful to first describe each mechanism in greater detail and then delineate how engaging in these learning mechanisms may negatively affect an infant whose parent is suffering from traumatic stress. First, in modeling, infants learn how to express and receive emotional and social cues by imitating a caregiver's expressions in daily observations (Thompson, 1991). When infants interact with a parent who has characteristic symptoms of PTSD, including, diminished affect and dissociative behaviors, they are likely met with restricted parental facial expressions. These infants may have challenges developing a broad range of emotions, as they have not had an opportunity to model such expressions through observing their parent. Next, in affective induction, infants develop emotional and social states through everyday experiences with a caregiver (Thompson, 1991). When infants spend time with a caregiver who has a negative affect (e.g., affects related to PTSD), they are more likely to display emotions related to sadness as such expressions are most prominent in their environment (Termine & Izard, 1988). Finally, in social referencing, infants gather information on how to respond to new and unfamiliar situations through watching their caregiver. If the infant is continuously referencing a parent who has high anxiety, they are more likely to develop anxious responses and less likely to approach new situations due to their learned behavior through their daily observations of their parent (De Rosnay, Cooper, Tsigaras, & Murray, 2006). The aforementioned work highlights the need to examine the impact of transgenerational

trauma on refugee social/emotional development and provides support for the current study's hypothesis that increased parental trauma symptomatology will be related to poorer social/emotional development in refugee infants.

Cognitive Development

Like social/emotional development, it is important to examine how infants' cognitive capacities develop prior to discussing how this system may be impacted by transgenerational trauma. To date, much of the work on cognitive development has stemmed from Piaget's theory of cognitive development and Erickson's psychosocial stages. These theories, in combination with a host of research, have provided great insight into the unfolding of cognition within the first year of life (Sheridan & Nelson, 2009). Specifically, starting at birth, infants' cognitive capacities are limited to reflexive processes needed for survival, such as sucking when offered a bottle or breast (Zeanah, 2009). From one to four months, there is a great shift in infants' cognition as they begin to demonstrate the ability to repeat purposeful behaviors to fulfill their own desires (Rochat & Striano, 1999) and to expect outcomes based on the predictability of their environment (e.g., expecting to be fed at the sight of their mother's breast). Between four and eight months, infants begin to test cause/effect relationships and refine their own goal directed behavior (Csibra, 2008). Finally, from eight to 12 months, infants begin to demonstrate means-end behavior by sequencing activities learned through cause and effect representations in order to achieve a goal (Gergely, Nádasdy, Csibra, & Bíró, 1995). Additionally, during this time, infants will also master the understanding that an object continues to exist when it is placed outside their visual field, namely, object permanence (Baillargeon & Graber, 1988). Of note, the successful development of these

cognitive abilities can be greatly influenced by numerous biological and environmental factors.

Parental psychosocial functioning is a mechanism that has both biological and environmental implications for the development of cognitive functioning (Sheridan & Nelson, 2009). This concept has been best examined and understood within the context of parental depression where infants of depressed mothers exhibit poorer cognitive functioning (Field et al., 1996; King & Laplante, 2005) that permeates throughout development (DiLalla et al., 1990). One reason for the biological impact of parental psychosocial functioning on infant cognition is the idea that elevated maternal cortisol levels affect the development of the prenatal infant's hypothalamic-pituitary-adrenal (HPA) axis, which is related to poorer learning, memory, and executive functioning (Laurent et al., 2013; Murray & Cooper, 1997). Further, infants exposed to maternal symptoms of sadness and withdrawn behavior exhibit lower vagal tones (Moore & Calkins, 2004), which is related to impairments in information processing (Murray & Cooper, 1997). In addition to these biological contributors, environmental factors related to parental psychosocial functioning can negatively impact infants' cognitive development. Specifically, infants of mothers with anxious and dissociative behaviors may be more likely to experience unpredictable environments that hinder their ability to formulate cause and effect relations given the lack of patterned responding. Further, infants who model anxious parenting behaviors are less likely to approach and explore novel stimuli and thus miss opportunities that facilitate cognitive development (Schuder & Lyons-Ruth, 2004). To date, there is a dearth of research on the effects of parental trauma on infant cognitive development. The current study seeks to fill this gap, and,

given the aforementioned work, hypothesizes that increased parental trauma symptomatology will be related to poorer cognitive development in refugee infants.

Mechanisms of Transmission: Parental Caregiving Behavior

As discussed above, previous research supports the notion that transgenerational trauma may occur as a result of the direct impact of parental trauma symptomatology (e.g., genes, affective induction) on infant development. In addition to this direct relation, an infant's interaction with her/his traumatized parent may be another mechanism by which transgenerational trauma occurs. Specifically, parental trauma symptomatology may lead to certain caregiving behaviors that in turn affect infant development. Prior to delineating why this relation may exist, it is imperative to discuss the importance of caregiving behaviors for normal infant development.

To date, a large body of literature has indicated that the use of positive caregiving behaviors during parent/child interactions promotes both social/emotional and cognitive development in infants (Calkins & Leerkes, 2004; Lemelin, Tarabulsy, & Provost, 2006; Wolff & Ijzendoorn, 1997). Interactions involving positive caregiving behaviors generally appear synchronous and organized with the mother responding to the infant's cues and distress signals (Ainsworth, 1979; Barlow, van der Voort, Juffer, & Bakermans-Kranenburg, 2014). Psychosocially, these types of interactions may foster the development of emotional expression, behavioral control, and emotion regulation. Cognitively, such exchanges can provide adequately stimulating environments where the infant is afforded the opportunity to explore his/her environment and learn from external stimuli (Jaffee, 2007; NIH, 2000). Indeed, research examining the relation between parental caregiving behavior, and cognitive and behavioral outcomes in at-risk infants has

shown that increased parental use of sensitive caregiving behaviors is associated with greater cognitive and behavioral outcomes for the infant (Jaffee, 2007). Given that parents who have a trauma history may have difficulty engaging in sensitive parenting styles due to aspects of their mental health symptomatology, it is imperative to examine the role of parenting in transgenerational trauma.

Parents with trauma symptomatology experience challenges that can directly affect their functioning as caregivers (Lyons-Ruth & Block, 1996), including the experience of intrusive thoughts and feelings, avoidance of trauma-related reminders, negative alterations in cognitions and mood, and shifts in arousal and reactivity (APA, 2015). For example, due to their hyperarousal, traumatized parents may misinterpret the safety of an environment and thus demonstrate an exaggerated responsiveness to their children (e.g., overprotection) to mitigate their own fear of potential danger (Lyons-Ruth & Block, 1996). Additionally, due to their negative cognitions, traumatized parents may attribute negative/fearful meanings to their infant's innocuous behaviors (Main & Hesse, 1990). Finally, due to their avoidance of trauma-related reminders, traumatized parents may disengage from interactions with their infants in order to protect themselves from over-arousal or due to their own feelings of detachment (Lyons-Ruth & Block, 1996; Main & Hesse, 1990). Given these conceptual relations, it is of no surprise that research has demonstrated that increased parental trauma symptomatology is related to greater use of atypical/insensitive parenting behaviors (Lyons-Ruth & Block, 1996).

Though there are a variety of atypical caregiving behaviors, to date, research has demonstrated that trauma symptomatology is most associated with fearful-disoriented, intrusive-negative, and withdrawn caregiving behaviors (Lyons-Ruth & Block, 1996).

Fearful-disoriented behaviors include any interpretation of, or response to, an infant's cue that exhibits a fearful or unpredictable quality. Examples of fearful-disoriented caregiving behaviors include the parent treating the infant as more powerful than him or herself, the parent exhibiting rapid changes in affect, and the parent exhibiting a stammering voice when communicating with their infant (Lyons-Ruth, Bronfman, & Parsons, 1999). Intrusive-negative behaviors include any unsolicited behavior or solicited response to an infant cue that is forceful, invasive, or negative. Examples of intrusive-negative caregiving behaviors include the parent hovering over the infant while the infant is engaged in play, the parent forcefully manipulating the infant's body, and the parent voicing negative motivations to the infant's innocuous behaviors. Finally, withdrawn behavior includes any behavior or lack thereof that elicits physical and emotional distance from the infant (Lyons-Ruth et al., 1999). Examples of withdrawn behaviors include the parent not engaging with the infant, the parent engaging with the infant from a far distance, and the parent redirecting the infant away from him or herself (Lyons-Ruth et al., 1999).

Though research has not investigated the role of fearful-disoriented, intrusive-negative, and withdrawn caregiving behaviors in the refugee population, these parenting behaviors are grounded in attachment theory, which has demonstrated cross-cultural relevance (Bakermans-Kranenburg, van IJzendoorn, & Kroonenberg, 2004; McMahan True, Pisani, & Oumar, 2001; Tomlinson, Cooper, & Murray, 2005). Additionally, work with non-Western individuals within post-conflict settings indicates the presence of these behaviors in relation to trauma. For example, in a qualitative study examining the effects of trauma in families residing in post-conflict settings (e.g., Iran and Mozambique),

researchers noted the presence of fearful-disoriented, intrusive-negative, and withdrawn caregiving behavior in traumatized parents (Kaitz et al., 2009). For example, in regard to fearful caregiving, a mother noted that she taught her child to fear social play as a means of protecting the child's safety. Regarding intrusive caregiving, another mother recounted hovering over her child in order to protect herself from the potential sight of his blood (if he got hurt) as it would remind her of the children who were injured in war-related bombings. Finally, in regard to withdrawn parenting, a parent reported that she refused to hold her child as a newborn as the appearance of the child's skin reminded her of the pieces of human flesh she saw in warfare (Kaitz et al., 2009).

It is of no surprise that the atypical parenting behaviors described above can negatively impact infant social/emotional and cognitive development (Cabrera, Shannon, & Tamis-LeMonda, 2007; Rubin, Burgess, & Hastings, 2002). In regard to social/emotional development, fearful-disoriented, intrusive-negative, and withdrawn behaviors have been related to poorer emotional expression, behavior, and social interaction in children and infants (Cabrera et al., 2007; Rubin et al., 2002). This relation is not surprising. For example, if a parent is withdrawn they may struggle to respond appropriately to an infant's distress, and as a result the infant may have difficulty learning regulation strategies (Bakermans-Kranenburg et al., 2004; Madigan et al., 2006). In regard to cognitive development, greater frequency of atypical caregiving behaviors (e.g., intrusive, withdrawn parenting) is related to decreases and delays in cognitive development (Landry, Smith, Miller-Loncar, & Swank, 1997). This relation likely exists because infants who are provided with inadequate (e.g., withdrawn behavior) or over-stimulation (e.g., intrusive behavior) may encounter difficulty in forming mental

representations, relations, and sustaining attention, as they have not been afforded adequate pacing and opportunity to develop such systems (Main, 2000). Taken together, the aforementioned literature provides a conceptual basis for the relation between parent trauma symptomatology, atypical parenting behavior, and child development.

Empirically, the relation between parental trauma, atypical caregiving behaviors, and infant outcomes has been established in parent/infant dyads that have experienced single event or interpersonal trauma (Lyons-Ruth & Block, 1996). A few studies have examined the presence of such a relation in refugee parents who have children and adolescents. For example, Field, Muong, and Sochanvimean (2013) found that atypical parenting behavior mediated the relation between parental trauma and psychosocial outcomes for teenage girls of traumatized refugees. Similarly, another research study found that increased levels of maternal trauma symptomatology were related to higher levels of atypical caregiving behaviors in refugee mothers. However, these researchers found that atypical caregiving behaviors did not mediate the relation between maternal traumatic stress and child development (van Ee et al., 2012). The discrepancy of this work highlights the need to further examine whether atypical caregiving behavior is a mechanism of transgenerational trauma.

To date, studies have not investigated the relation between parental trauma symptomatology, atypical parenting behaviors, and development in refugee infants. The current study will explore this relation. Based on the majority of the aforementioned literature, it is anticipated that fearful-disoriented, intrusive-negative, and withdrawn behaviors will indirectly effect the relation between parental traumatic stress and infant development in both the cognitive and social/emotional domains. Specifically, it is

hypothesized that greater parental traumatic stress will be associated with a greater use of atypical parenting behaviors which will be associated with poorer infant development.

Psychological Flexibility as a Moderator of the Relation between Parent Symptomatology and Caregiving Behavior

When considering the impact of parental trauma symptomatology on the frequency of parental engagement in atypical caregiving behaviors, it could be important to explore individual factors that may attenuate this relation. One resiliency factor that may mitigate the negative effects of trauma symptomatology is a parent's own psychological flexibility. Psychological flexibility refers to the capability of an individual to accept emotional experiences while continuing to engage in present-moment, value-based behaviors (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Not surprisingly, greater psychological flexibility is related to numerous positive outcomes, including more adaptive psychological functioning for the individual (Hayes et al., 2006) and improved outcomes in the broader system to which the individual belongs (Cheron, Ehrenreich, & Pincus, 2009; Williams, Ciarrochi, & Heaven, 2012).

To date, research has not investigated the potential role of psychological flexibility as a moderator between parental trauma and parenting behaviors. However, prior work examining the relation between psychological flexibility, general parental distress, and parenting behaviors suggests that such an investigation is warranted. For example, in a sample of at-risk parents, Barnyard and Hayes (2012) found that following an intervention aimed at increasing psychological flexibility, parents demonstrated decreases in their own functional impairment. Beyond the individual impact for the parent, additional research has shown that increased psychological flexibility is related to

better functioning within the familial context. Specifically, within a population-based sample, researchers found that increased parental psychological flexibility is related to greater use of adaptive parenting behaviors, which in turn is related to increased positive child outcomes (e.g., fewer internalizing symptoms; Brassell et al., 2016).

For individuals with trauma symptomatology, the impact of psychological flexibility may be particularly meaningful in relation to their caregiving behaviors. Specifically, the atypical caregiving behaviors utilized by parents with trauma symptomatology are developed and maintained as a result of the parent attempting to control aspects related to their trauma history (Main & Hesse, 1990), such as their unwanted memories and negative thoughts and feelings. Increased psychological flexibility could afford the traumatized parent the ability to accept his or her own cognitive and emotional state. This acceptance may allow the traumatized parent to better engage in the interests of their child during their parent/child interactions, as they are not being preoccupied by the need to manage their trauma symptomatology. For example, traumatized parents are more likely to attempt to control play with their infant as a means of alleviating their own fears of potential danger and negative emotional states (Hess & Main, 1990). Increased psychological flexibility may allow such parents to accept and tolerate their thoughts (e.g., "we are unsafe") and feelings (e.g., fear). The acceptance of thoughts and feelings can allow a parent to better engage in present moment awareness and thus increase his or her ability to respond to the infant's cues and signals.

Given the aforementioned considerations, the current study will explore the relation between psychological flexibility, parental trauma symptomatology, and atypical caregiving behaviors. More specifically, the potential role of psychological flexibility in

moderating the association between parental trauma symptomatology and infant development will be examined. It is anticipated that the relation between parental trauma symptomatology and infant development will be attenuated with increased psychological flexibility. However, given the nascent stage of research on psychological flexibility and atypical caregiving behaviors, this hypothesis is more exploratory in nature.

Parental Coping as a Moderator of the Relation between Parent Symptomatology and Caregiving Behavior

Similar to psychological flexibility, the coping capacity of the parent may mitigate the effects of transgenerational trauma. Broadly, coping refers to an individual's ability to alter his or her cognitions and behaviors as a means of regulating internal and/or external states. Through engaging in coping strategies and regulating their internal state, individuals may better be able to meet the demands of their current situation (e.g., attending to their infant) and adapt to their environments (Folkman & Moskowitz, 2004). Coping strategies have been categorized by Folkman and colleagues into two dimensions, namely, problem-focused and emotion-focused coping. These two types of coping strategies have different implications for mitigating the effects of transgenerational trauma and thus will be described separately.

Traditionally, problem-focused coping has been viewed as the most effective coping strategy for reducing the consequences of psychosocial distress. When utilizing problem-focused coping techniques (e.g., analyzing a situation and executing an action plan), the individual attempts to remove or reduce the cause of the stressor; or in other words solve the problem (Folkman & Lazarus, 1980; Folkman & Moskowitz, 2004). The use of problem-focused coping has been found to be associated with reduced

psychological symptoms and impairments (Samuel, Noh, & Kaspar, 2003; Smith, Seltzer, Tager-Flusberg, Greenberg, & Carter, 2008; Tischler & Vostanis, 2007), including a lessened severity of posttraumatic stress symptoms (Linley & Joseph, 2004). Beyond positively affecting the individual, problem-focused coping is also related to greater use of positive parenting techniques (Tein, Sandler, & Zautra, 2000).

The potential role of problem-focused coping in mitigating the effects of trauma on caregiving behaviors remains to be empirically examined. However, the prospective benefit of problem-focused coping for traumatized parents can be conceptualized through a case example. For a traumatized parent, infant crying may trigger intrusive memories from their past wherein they heard similar cries and screams within a dangerous context. If parents do not engage in effective coping strategies, they may disengage from their crying infants in order to protect themselves from their trauma symptomatology. If parents utilize problem-focused coping, they may seek to identify the cause of distress and formulate an action plan to fix the situation. In the aforementioned example, using problem-focused coping, traumatized parents are better able to identify that the infant's crying is causing the distress. Thus, in order to reduce the distress, they will be more apt to respond to their infant's crying to stop the trigger.

Although problem-focused coping is likely helpful in a variety of parenting situations the traumatized parent encounters, there are aspects of trauma experiences and symptomatology that cannot be addressed by actively solving the "problem." In situations where the source of stress is unchangeable (e.g., the death of a loved one), it can be particularly beneficial for individuals to engage in emotion-focused coping. Broadly, when utilizing emotion-focused coping techniques, the individual attempts to reduce the

intensity of their challenging or unwanted feelings rather than attempt to control the actual stressor. Emotion-focused coping behaviors can include expressing emotions as a means of alleviating distress and utilizing distraction techniques (Folkman & Moskowitz, 2004). Although emotion-focused coping has been shown to be less effective than problem-focused coping in a variety of populations (Noh & Kaspar, 2003; Smith et al., 2008), it is thought to be beneficial for individuals who experience unchangeable stressors (Cooper, Katona, Orrell, & Livingston, 2008; Folkman & Moskowitz, 2004), such as trauma. The use of emotion-focused coping is associated with reduced psychosocial distress such as anxiety for individuals undergoing unchangeable stressors (Cooper et al., 2008). In regard to parenting, reductions of psychosocial distress likely affords traumatized parents the ability to disengage from their thought patterns and better engage with their environment (e.g., attending to their infant).

The potential benefit of emotion-focused coping for traumatized parents can be described through an example. Specifically, traumatized parents may feel as if the world is unsafe due to their past negative experiences (e.g., their spouse's murder, physical harm). This may lead the parents to control innocuous aspects of their environment for fear of potential safety consequences. For example, when their infants are learning a new skill (e.g., crawling), traumatized parents may prevent the infant from exploring to reduce their own fears regarding perceived dangers. If the parents engage in emotion-focused coping, they will utilize strategies to disengage from their own negative thoughts (e.g., the world is unsafe). The disentanglement from their thoughts may allow the parents to engage with their infants and provide positive support during the acquisition of new skills.

To date, studies have not investigated the role of parental coping in mitigating the relation between refugee parental trauma symptomatology and parent caregiving behavior. However, such an exploration is needed as preliminary work within this area could help inform future research. Thus, the current study examined the moderating role of problem-focused and emotion-focused coping in the relation between parental trauma symptomatology and infant development. Given the aforementioned considerations, it was anticipated that the relation between parental trauma symptomatology and infant development would be attenuated with increased problem-focused and emotion-focused coping.

Aims/Hypotheses

In sum, building upon existing literature, the focus of the current study is to examine a hypothesized model of transgenerational trauma in refugee mother/infant dyads (see Figure 1). Given that infant cognitive and social/emotional development are separate constructs, the model was conducted separately for these outcomes. In both models, it was anticipated that maternal trauma symptomatology was directly and negatively related to infant development. Additionally, it was expected that atypical parenting behavior was positively related to maternal PTSD symptomatology, negatively related to infant development, and would partially mediate the association between maternal trauma symptomatology and infant development. Finally, it was projected that parent resiliency would attenuate the relation between maternal trauma symptomatology and atypical parenting behaviors.

Methods

Participants

Sixty-one mother (M_{age} = 29.08 years)/infant (M_{age} = 7.79 months) dyads participated in the current study. Inclusion criteria were that the mother entered the country as a refugee or asylum seeker and that her infant was between the ages of four months and one year old. Mothers originated from nine different countries, had an average of a secondary school education, 2.72 children, and 83.6% were married.

Measures

Parental trauma. To assess parental trauma symptomatology, mothers completed the Harvard Trauma Questionnaire-Revised (HTQ-R; Mollica et al., 2004). The HTQ-R was specifically designed to measure trauma symptomatology for refugees. Participants are first instructed to indicate whether or not they have experienced 41 traumatic events that are often encountered by refugees. There is also an option for the endorsement of an "other" event for any additional and unlisted traumatic event that the participant has experienced. The traumatic events can be categorized into eight dimensions including material deprivation, war-like conditions, bodily injury, forced confinement, forced to harm others, witnessing violence to others, and head injury. In the second section the participants respond to whether they have experienced direct injury to their head, as well as other situations that may lead to brain damage (e.g., suffocation). In the final section, participants are asked to rate the presence and severity of 40 trauma-related symptoms within the past week. Responses range from "Not at all" to "Extremely." The first 16 trauma-related symptoms originate from DSM-IV criteria for PTSD and specifically assess symptoms of avoidance, re-experiencing, and psychological arousal. Example

items include: “Recurrent thoughts or memories of the trauma,” “Unable to feel emotions,” “Feeling on guard.” The remaining items assess trauma symptoms that are culturally specific and respond to the unique experience of refugees including survival of humanitarian crises and displacement. Example items include: “Feeling powerless to help others,” “Blaming yourself for things that have happened,” and “Feeling unable to make daily plans.” Psychometrics of the HTQ-R are indicative of good reliability with interrater reliability estimates between .93 and .98, one-week test-retest reliability estimates between .89 and .92, and internal consistency estimates between .90 and .96. Further, the HTQ-R demonstrates good validity with 85-93% of individuals with clinician diagnosed PTSD meeting PTSD criteria-based on the HTQ-R (Mollica et al., 2004). For the purposes of the current study, the mean of the individual’s trauma symptomatology on all 40 items was utilized.

Parental coping. To examine parental emotion-focused and problem-focused coping, mothers completed the Coping Strategies Inventory Short-Form (CSI-SF; Addison et. al, 2007). The CSI-SF is a 16-item measure of coping evenly split between problem-focused and emotion focused coping behaviors. Participants are asked to rate the frequency for which they engage in each of the coping strategies using a five-point Likert-scale (1 = “Never”; 5 = “Almost Always”). Problem-focused coping examples include: “I make a plan of action and follow it” and “I put the problem in perspective.” Emotion-focused coping examples include: “I try not to think about the problem” and “I hope for a miracle.” Psychometrics are indicative of adequate internal consistency with reliability estimates ranging from 0.59 - 0.70 and strong goodness of fit (0.95). For the

purposes of the current study, the mean of the emotion-focused subscale and the mean of the problem-focused subscale were used.

Parental psychological flexibility. To examine psychological flexibility, mothers completed the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011). The AAQ-II is the most widely utilized measure of psychological flexibility, consisting of seven negatively phrased items that measure psychological inflexibility. Example items include "I am afraid of my feelings" and "Worries get in the way of my success." In the original version of the AAQ-II, participants respond on a seven-point likert-scale as to how true each statement is for them. For the purposes of the current study, the seven-point likert-scale was reduced to a five-point likert-scale (1 = "Never True"; 5 = "Always True") in order to bring consistency to the various rating scales participants completed. The validity of the AAQ-II has been explored in three studies that together provide support for the psychometric soundness of the AAQ-II. Specifically, these studies found that (1) the AAQ-II accounted for unique variance in predicting quality of life and psychological distress when considering other coping styles (Karekla & Panayiotou, 2011); (2) the AAQ-II demonstrated incremental validity in explaining depression, anxiety, and psychosocial health (Fledderus, Oude Voshaar, ten Klooster, & Bohlmeijer, 2012); (3) the AAQ-II added significant variance above and beyond general mindfulness in predicting quality of patient functioning (McCracken & Zhao-O'Brien, 2010). For the purposes of the current study, the reverse-coded mean of the total score was utilized in order to reflect psychological flexibility.

Atypical parenting behaviors. To assess fearful/disoriented, intrusive/negative, and withdrawn parenting behavior, mother/infant interaction videotapes were coded using

the Atypical Maternal Behavioral Instrument for Assessment and Classification (AMBIANCE) protocol (Lyons-Ruth et al., 1999). Using a naturalistic observation method, mothers were asked to interact with their infants as they would at home. The interaction was videotaped for 10 minutes without any research staff in the room. In order to gain knowledge regarding the variety of interactions that mothers and infants have each day, mother and infants were not given any toys in the first 5 minutes of interaction and were subsequently given toys for the remaining 5 minutes.

The 10-minute interaction was reviewed by a trained coder and coded for the mother's use of various atypical parenting behaviors. Five types of atypical parenting behavior were recorded. However, for the purposes of the current study only fearful/disoriented (e.g., startles to infant behavior without a clear cause, shifts rapidly from activity to activity), intrusive/negative (e.g., pulls infant by wrist, mocks or teases infant), and withdrawn behaviors (e.g., distances when infant approaches, uses prop to keep infant at distance) were examined. For each dimension, based on the frequency and severity of the behaviors observed, the coder assigned a rating using a seven-point likert-scale [1 = Very minimal evidence of atypical behavior to 7 = Persistence use of atypical behavior] (Lyons-Ruth et al., 1999). Psychometrics for the AMBIANCE protocol is indicative of good reliability and validity. Test-retest data indicated a stability coefficient of .56 (Madigan et al., 2006) and reliability estimates range from .60 to .74 (Gervai et al., 2007). Further, AMBIANCE scores are predictive of a variety of outcomes associated with parental use of atypical behavior, including disorganized attachment and externalizing difficulties (Madigan et al., 2006). For the purposes of the current study, the

coder assigned severity ratings for the fearful/disoriented, intrusive/negative, and withdrawn caregiving behaviors were utilized.

Infant development. Infant development was assessed using the Bayley Scales of Infant and Toddler Development-Third Edition (Bayley-III; Bayley, 2005). The Bayley-III is a widely utilized standardized measure of cognitive, language, motor, and social/emotional development for infants and toddlers aged 1 – 42 months. For the purposes of the current study, only two subtests were administered, namely, the Cognitive Scale and the Social/Emotional Scale. The Cognitive Scale of the Bayley-III is a clinician administered assessment of infant cognition, including, sensorimotor development, explorations and manipulation, concept formation, and memory. During the administration of the Cognitive Scale, infants complete a variety of tasks that measure the aforementioned cognitive processes. For example, in one item, an infant is shown a yellow rubber duck and while the infant is looking at the duck, it drops to the floor. The item is scored as correct if the child looks for the fallen duck as this behavior is indicative of object permanence. The Social/Emotional Scale of the Bayley-III is a parent-report measure that assesses the infant's mastery of social and emotional milestones, including, self-regulation, communication, and using emotions in an interactive manner. Using a five-point Likert scale (1 = "None of the Time"; 5 = "All of the Time"), parents are asked to report on the frequency at which their child demonstrates each behavior. Example items include, "You can easily get your child's attention without having to be very dramatic" and "Your child responds to people playing with him/her by making sounds or faces." The sum of the child's score on each scale is respectively computed and an age-normed standardized score (M = 100; SD = 15; Bayley, 2005) is assigned.

The Bayley-III has been used with diverse populations. Further, it demonstrates strong reliability with internal consistency estimates ranging from .87-.93 and the test-retest reliability averages at .80 across all ages. Additionally, the Bayley-III has concurrent validity with other measures of infant functioning ranging from .58-.70 (Bayley, 2005). For the purposes of the current study, the standardized score of infant cognitive and social/emotional development was utilized.

Procedures

Preliminary Procedure

The proposed project received approval from the Institutional Review Board (IRB) at the University of Vermont in April, 2015. To determine the cultural relevance and acceptability of the study and research measures, the principal investigator met with a variety of community stakeholders and refugee elders (i.e., the Community-based participatory research [CBPR] team). Refugee elders across the various communities expressed that transgenerational trauma is a phenomenon that occurs within their respective populations and that it needs to be better understood. Regarding potential participants, the CBPR team stated that the sample should only include mother/infant dyads rather than broad parent/infant dyads given a variety of cultural considerations (e.g., respecting traditional gender roles). In addition to study design, the CBPR team evaluated the interpretability of every item from each study measure. If an item from a measure could not be appropriately interpreted into another language to convey it's meaning (e.g., "I feel blue"), the principal investigator worked with the native speaking CBPR team member and reworded the item to reflect its content (e.g., "I feel sad"). In

addition, the principal investigator detailed the atypical parenting behavior coding system to the CBPR team to ensure that the protocol demonstrated cultural relevance.

Primary Procedure

Eligible participants completed the study procedures in a one-time research visit. Participants who were not fluent in English were provided an interpreter who was trained on study procedures and measures. After completing consent procedures, mothers answered questions regarding their demographic information. Mother/infant dyads then engaged in the 10-minute interaction following the AMBIANCE coding procedures. Upon completion of the interaction, infants were administered the Bayley-III Scale of Cognitive Development and the mothers subsequently completed the remaining measures. All measures were orally administered to participations to reduce the potential for missing data. Participants were compensated with toys or received monetary compensation for their time and effort.

Upon completion of the study procedures, the principal investigator and a trained research assistant coded the mother/child interaction using the AMBIANCE system. An interpreter provided oral translation of videos where the mother spoke her native language to the infant. Fifty-five percent of the videos were double-coded in order to examine reliability. After coding every seven tapes, the coders met to evaluate reliability and discussed any discrepancies as a means of reducing the potential for reliability drift. Between the coders, dimension scores were considered a match when the ratings were within 1-point value of each other. Overall reliability for the three dimensions were 96% for fearful/disoriented, 90% for intrusive/negative, and 85% for withdrawn. All rating differences greater than a 2-point margin were resolved.

Statistical Analyses

Preliminary Analyses

Bivariate correlations were computed to assess whether maternal education, familial socioeconomic status, number of children, and maternal age should be included as covariates within the final models predicting infant cognitive and social/emotional development. Additionally, intercorrelations among study variables were examined to determine whether the proposed resiliency variables (i.e., psychological flexibility, problem focused coping, and emotion focused coping) and the proposed atypical parenting variables (i.e., fearful/disoriented, negative/intrusive, and withdrawn parenting) should be aggregated into respective index variables or be treated as separate constructs within the analytic models.

Primary Analyses

To examine the proposed models predicting infant cognitive and social/emotional development, respectively, the PROCESS macro (Hayes, 2013) for SPSS version 24 was utilized. To assess for moderated mediation within the model, three regressions were conducted. In the first analysis, negative/intrusive parenting was regressed on maternal PTSD symptomatology, psychological flexibility, and the interaction between these two variables. In the second analysis, infant development was regressed on negative/intrusive parenting and relevant covariates. Finally, in the third analysis, infant development was regressed on maternal PTSD (See Figures 2 – 5).

Missing Data

Two individuals were missing infant cognitive scores, three were missing social/emotional scores, five were missing negative/intrusive parenting scores, and

fourteen were missing PTSD symptom scores. Of note, 12 of the 14 participants who were missing PTSD symptoms scores reported that they had never experienced a trauma and thus were not administered the symptom portion of the measure. A missing by design approach was utilized wherein all cases were retained for analyses and missing data was handled with multiple imputation. For the preliminary correlation analyses, missing data were imputed 20 times and the pooled bivariate correlation results were utilized. For the primary analyses, data were imputed 20 times for each analysis (i.e., separately for the models predicting cognitive and social/emotional development) and the average value for each missing data case was utilized in the primary analyses.

Results

Preliminary Analyses

Means and intercorrelations among study variables are presented in Table 1. Standard deviations are not reported given that the data were imputed. To determine the appropriateness of combining the proposed resiliency variables into an aggregated index variable for the study model, bivariate correlations among psychological flexibility, problem-focused coping, emotion-focused coping, and PTSD symptomatology were examined. As expected, greater psychological flexibility was related to decreased PTSD symptomatology. Unexpectedly, however, increased emotion-focused coping was related to greater PTSD symptomatology and poorer psychological flexibility. Additionally, problem-focused coping showed no significant relations. In light of these findings, only psychological flexibility was included as the moderating resiliency variable within the study models. Next, the relation between fearful/disoriented, negative/intrusive, withdrawn parenting, and PTSD symptomatology was examined to determine whether it was appropriate to aggregate these variables into a single atypical parenting index variable. As hypothesized, negative/intrusive parenting was related to greater PTSD symptomatology and, of note, less psychological flexibility. Though fearful/disoriented and withdrawn parenting were positively related to each other, unexpectedly, neither variable was related to PTSD symptomatology. Given these considerations, only negative/intrusive parenting was included as a mediating variable within the study models. Finally, unpredictably, neither PTSD symptomatology, nor any of the proposed parenting variables, were related to infant development in either the cognitive or social emotional domain. Psychological flexibility was the only variable associated with infant

cognitive development; specifically, greater flexibility was positively associated with cognitive functioning.

Bivariate correlations between participant demographic characteristics and study outcome measures, namely infant cognitive and social/emotional development, were examined to determine appropriate covariates to include within the final models (see Table 2). Maternal education was significantly and positively correlated with infant cognitive development, but uncorrelated with infant social/emotional development. Familial socioeconomic status, maternal age, and number of children were not related to either infant development domains. Based on these results, maternal education was included as a covariate for the model predicting infant cognitive development. For the model predicting infant social/emotional development no covariates were added.

Primary Analyses

Cognitive Development. The association between maternal PTSD symptomatology and infant cognitive development was not mediated by negative/intrusive parenting. As illustrated in Figure 2, the pathways between maternal PTSD symptomatology and negative/intrusive parenting, negative/intrusive parenting and infant cognitive development, and maternal PTSD symptomatology and infant cognitive development were not significant. In addition, psychological flexibility was not significantly related to negative/intrusive parenting, nor was there a significant interaction between maternal PTSD symptomatology and psychological flexibility in predicting negative/intrusive parenting. The covariate, maternal education, was significantly related to infant cognitive development. Ignoring the mediating and moderating variables within the model, the direct effect of maternal PTSD

symptomatology on infant cognitive development was not significant, b = -5.39, t (60) = -1.32, p = 0.19. In addition, the indirect effects of the negative parenting at high (b = 2.80, *CI*: -0.52, 10.33), average (b = 1.73, *CI*: -0.71, 8.30), and low (b = 0.97, *CI*: -1.96, 7.45) values of psychological flexibility were all non-significant.

As maternal PTSD and psychological flexibility demonstrated evidence of multicollinearity, a separate meditational analysis was conducted excluding psychological flexibility (see Figure 3). In this model, the pathway between maternal PTSD symptomatology and negative/intrusive parenting was significant, b = 0.83, t (60) = 3.53, p = 0.00; however, the indirect effect remained non-significant (b = 2.51, *CI*: -0.54, 6.40).

Social/Emotional Development. The relation between maternal PTSD symptomatology and infant social/emotional development was not mediated by negative/intrusive parenting. As illustrated in Figure 4, the pathways between maternal PTSD symptomatology and negative/intrusive parenting and negative/intrusive parenting and infant social/emotional were not significant. In addition, psychological flexibility was not significantly related to negative/intrusive parenting, nor was there a significant interaction between maternal PTSD symptomatology and psychological flexibility in predicting negative/intrusive parenting. Ignoring the mediating and moderating variables within the model, the direct effect of maternal PTSD symptomatology on infant cognitive development was not significant, b = -2.62, t (60) = -0.76, p = 0.45. In addition, the indirect effects of the negative parenting at high (b = 2.78, *CI*: -1.49, 9.73), average (b = 1.89, *CI*: -0.85, 8.01), and low (b = 1.16, *CI*: -1.39, 7.84) values of psychological flexibility were all non-significant.

As maternal PTSD and psychological flexibility demonstrated evidence of multicollinearity, a separate meditational analysis was conducted excluding psychological flexibility (see Figure 5). In this model, the pathway between maternal PTSD symptomatology and negative/intrusive parenting was significant, $b = 0.85$, t (60) = 3.70, $p = 0.00$; however, the indirect effect remained non-significant ($b = 2.31$, *CI*: -0.91, 6.70).

Discussion

The purpose of the current study was to examine transgenerational trauma and its mechanisms of transmission within refugee mother/infant dyads. Prior work has demonstrated that maternal trauma symptomatology is related to poorer social/emotional and cognitive outcomes for refugee youth (ages 6 – 17 years; Daud et al., 2008; Daud et al., 2005), and that parenting behavior can be a mechanism through which transgenerational trauma manifests (Field et al., 2013). The current study sought to add to the literature by exploring the impact and mechanisms of transgenerational trauma within the first year of life in a cross-cultural sample of refugee mother/infant dyads. Specifically, the relation between maternal trauma symptomatology, maternal resiliency, and atypical parenting behavior in predicting infant cognitive and social emotional development was explored. For both the primary and preliminary study findings, the discussion section will (1) review findings regarding study hypotheses (2) discuss implications of study findings, (3) report the limitations of this research, and (4) delineate conclusions and future directions.

Primary Analyses

To examine the hypothesized model of transgenerational trauma, moderated meditational models were utilized (see Figures 2 and 4) and three study hypotheses were formulated. Specifically, it was anticipated that (1) maternal trauma symptomatology would be directly and negatively related to infant development, (2) atypical parenting behavior would partially mediate the association between maternal trauma symptomatology and infant development, and (3) parental resiliency would attenuate the relation between maternal trauma symptomatology and atypical parenting behaviors.

Results did not support any of the study hypotheses, nor were any of the paths between the main study variables significant in either of the models predicting the primary study outcomes (i.e., infant cognitive and social/emotional development). One possible explanation for these results is that children do not exhibit and/or become vulnerable to the effects of transgenerational trauma until later in development. This postulation can be supported by the life course perspective of development, which suggests that child outcomes are sequenced, age-differentiated, and often result from accumulative exposure to stimuli (Elder, 1998). Though studies investigating transgenerational trauma have not examined this developmental perspective, work in other areas of intergenerational transmission of parent psychopathology have provided support. Specifically, longitudinal research with depressed mothers has shown that the effects of parent psychopathology cannot be detected until 27 months of age (Ghodsian, Zajicek, & Wolkind, 1984) and that children with greater exposure to maternal depression have poorer outcomes than those who have mothers who remit, suggesting the importance of accumulative exposure in transmission (Hughes, Roman, Hart, & Ensor, 2013). Thus, although the first year of life may be too early to observe the effects of transgenerational trauma, the importance of early intervention on maternal psychopathology should not be discounted as the exposure in infancy may be the origin of, or a contributor to the overall developmental sequence. Future studies examining transgenerational trauma would benefit from utilizing longitudinal study designs that begin in infancy to gain a better understanding of the developmental course.

Another potential reason for the lack of significant findings within the main study models is that the participants in the current study had a relatively low mean trauma

symptomatology score at 1.75 (≥ 2.5 is considered symptomatic of PTSD; Mollica et. al, 2004). Some research has shown that transgenerational trauma can only be detected in refugee children whose parents meet diagnostic criteria for PTSD and not in refugee children whose parents have been exposed to war but are subthreshold in their clinical presentation (Daud et al., 2005). Therefore, it may be that trauma presentation in the current sample was not severe enough to impact the development of the infants within the study. However, interpreter and community outreach workers of the CBPR team anecdotally noted inconsistency between the mother's report of symptom severity and their daily presentation. Therefore, it could also be the case that the participants in the current study underreported their trauma symptomatology. The underreporting of trauma symptomatology is often encountered in trauma research given the tendency of individuals to downplay their clinical presentation due to the perceived stigma of mental illness (Fear, Seddon, Jones, Greenberg, & Wessely, 2012). As there are not methods for determining the accuracy of participants' symptom report within the current sample, future research may benefit from evaluating alternative methods for collecting information on trauma symptomatology that may increase reporting accuracy (e.g., culling clinical data gathered by a trusted therapist rather than an unfamiliar researcher within a one-visit study).

A final methodological limitation that may have contributed to the lack of significant findings for the main study models is the sole focus of the study on the maternal role in transgenerational trauma. In many refugee families, children are raised in a collectivist manner where grandmothers, fathers, neighbors, and even older children share responsibility for raising the child (Mares & Powrie, 2008). Research in caregiving

homogamy has shown that having at least one caretaker who has a sensitive parenting style and positive psychosocial functioning can buffer the effects of having another caretaker who has an insensitive parenting style (Ryan, Martin, & Brooks-Funn, 2006). Therefore, in the current study, the outcomes for the infants of mothers with high trauma symptomatology could have been mitigated by healthy interactions with non-distressed family members. In the future, it would be beneficial for studies examining transgenerational trauma within the refugee population to examine the entire context of the child's caregiving system and evaluate the role of caregiving homogamy and discord.

Post-Hoc Analyses: Simple Mediation Model of Transgenerational Trauma

In addition to the main study models, post-hoc analyses were conducted to further explore potential models of transgenerational trauma. The post-hoc analyses were conducted to address the multicollinearity issues in the main study models and specifically consisted of simple mediation models with negative/intrusive parenting mediating the relation between maternal trauma symptomatology and infant cognitive and social/emotional development, respectively (see Figures 3 and 5). For both models predicting infant cognitive and social/emotional development, respectively, the model itself and the pathways predicting infant development were not significant. However, in both models, the path from maternal trauma symptomatology in predicting fearful/intrusive parenting behavior was significant and in the positive direction. Thus, results from the simple mediation model and the bivariate correlations suggest that increased maternal trauma symptomatology is related to greater use of negative/intrusive parenting behavior.

Interestingly, this is the first study to empirically replicate findings that increased trauma symptomatology is related to greater use of negative/intrusive parenting behaviors in a refugee population, as prior work demonstrating this relation has been with Western populations (Cohen, Hien, & Batchelder, 2008; Lang, Gartstein, Rodgers, & Lebeck, 2010). Studies investigating transgenerational trauma in the refugee population have not found a significant relation between trauma symptomatology and intrusive parenting in refugee mothers who had toddlers (van Ee et al., 2012) and adolescents (Field et al., 2013). As refugees represent a heterogeneous population, it could be that the current study found evidence for the relation between maternal trauma symptomatology and negative/intrusive parenting behaviors because of the cultural representation of the group. Alternatively, it could also be that parenting style of traumatized refugee mothers shifts throughout development in response to the child's changing needs and specific cultural views on development and parenting. Specifically, it may be that mothers are more intrusive in parenting during the early years because of the demanding nature of children during this time. Future work could benefit from longitudinal studies that examined the continuity of traumatized mothers' parenting style over the course of development in order to determine appropriate intervention points.

Although findings from the current study demonstrated a relation between maternal trauma symptomatology and negative/intrusive parenting, an association between negative/intrusive parenting and infant development was not observed. To date, much of the research that has documented a negative impact of negative/intrusive on child outcomes has done so with children *beyond* the first year of life (Degnan, Calkins, Keane, & Hill-Soderlund, 2008; Propper, Willoughby, Halpern, Carbone, & Cox, 2007).

From a life course perspective on development (Elder, 1998), the current study's lack of findings could be due to age-differentiated effects of negative/intrusive parenting. Specifically, negative/intrusive parenting originates from the study of attachment theory and observations of children with insecure attachment styles (Hesse & Main, 2000). To develop attachment, children must have interactions with a human caregiver, self-other distinction, object permanence (view caregiver as permanent object), and cultivate a caregiver schema (Waters, Kondo-Ikemura, Posada, & Richters, 1991). Thus, negative/intrusive parenting may not be as deleterious to a child until they have the aforementioned cognitive abilities needed to detect the insecurity/instability of this parenting style (~8 to 12 months of age; Waters et al., 1991). For example, if an infant does not have object permanence, they are less likely to experience distress and be affected when a mother dominates play and removes a toy, as they do not yet have awareness of the objects intransience. However, as negative/intrusive parenting has been related to a host of negative outcomes for children later in development (Degnan et al., 2008; Propper et al., 2007), clinicians may seize the opportunity to assess and address negative/intrusive parenting styles in refugee mothers of infants as intervening early on such parenting behaviors could be easier than later when the parenting style is more established and patterned.

Preliminary Analyses: Coping Behaviors

Given the negative impact of maternal trauma symptomatology on the individual and family dynamic (i.e., parenting), the current study examined hypothesized protective/attenuating factors (i.e., psychological flexibility, emotion-focused coping, problem-focused coping) to inform potential intervention. First, psychological flexibility

was examined as a potential protective factor for maternal trauma symptomatology given that the ability to accept one's emotional experiences while engaging in value-based behavior has been shown to improve a host of psychosocial outcomes (Hayes et al., 2006). Indeed, findings from the current study indicate that greater psychological flexibility is related to decreased maternal trauma symptomatology. Interestingly, in the current samples, psychological flexibility and maternal trauma symptomatology exhibited a relatively high negative relation and further demonstrated a similar pattern of association with other study variables. The high relation between these variables could be attributed to the hypothesis that poor psychological flexibility is actually a feature of anxiety-based disorders (Kashdan & Rottenberg, 2010) that contributes to the bodily arousal (Zvolensky & Eifert, 2000), fear of emotion (McLaughlin, Mennin, & Farach, 2007), and avoidance responses (Kashdan & Steger, 2006) observed in this population. Though similar to other work examining anxiety and psychological flexibility (Kashdan & Rottenberg, 2010), in the current study, psychological flexibility demonstrated its own unique set of findings, suggesting its distinction as a construct. Specifically, in the current sample, increased psychological flexibility was the only variable outside of maternal education associated with greater infant cognitive development. Though this relation has not been documented before, it may exist because a parent's ability to remain engaged in the present moment allows them to engage in sensitive parenting behaviors that promote cognitive outcomes. However, future studies specifically investigating sensitive parenting behaviors will need to explore this working hypothesis. Nevertheless, given the positive impact of psychological flexibility on the individual and familial system (Brassell et. al,

2016), it may be particularly helpful for clinicians to consider acceptance-based interventions when working with traumatized refugees and their families.

In addition to psychological flexibility, emotion-focused coping was also explored as a potential attenuating factor of maternal trauma. In emotion-focused coping, individuals attempt to alleviate their distress by engaging in strategies aimed at managing or reducing the intensity of their emotional state (Folkman & Lazarus, 1980; Folkman & Moskowitz, 2004). Prior studies have indicated that an emotion-focused coping style can be beneficial in mitigating trauma symptomatology for individuals who have undergone uncontrollable stressors (Cooper et al., 2008), such as refugees escaping war. Contrary to expectations, results of the current study suggested that emotion-focused coping was related to greater maternal trauma symptomatology. This positive association could be due to the way in which emotion-focused coping was examined within the current study. Specifically, the measure assessed for coping style rather than specific coping behaviors. In emotion-focused coping there are adaptive strategies (e.g., prayer, seeking social support) and maladaptive strategies (e.g., denial, avoidance), both of which ultimately share the goal of controlling and/or decreasing the intensity of the individual's emotional state (Cooper et al., 2008; Folkman & Lazarus, 1980). It is possible that in the current sample, individuals with high emotion-focused coping style utilized maladaptive emotion-focused coping strategies (e.g., experiential avoidance, suppression of emotion), behaviors known to worsen anxiety and trauma symptoms (Marx & Sloan, 2005). Given the shortcomings of examining coping style in a broad manner, future studies may benefit from evaluating the specific emotion-focused coping behaviors that may be adaptive in reducing trauma symptomatology (e.g., prayer, meditation).

Finally, problem-focused coping was also studied as a potential beneficial coping style for trauma symptomatology in refugee mothers. In problem-focused coping, individuals engage in active coping strategies in order to confront and resolve the perceived stressor (Folkman & Moskowitz, 2004). Despite a wide range of literature indicating that problem-focused coping attenuates trauma symptoms (Linley & Joseph, 2004), the current study did not find a significant relation between the two variables. This unexpected and contrasting finding to prior research may be related to cultural influences of coping. Specifically, in the current study, the majority of participants originated from collectivistic societies where individuals tend to value community over individual needs and are inclined to be conflict-avoidant. Such cultural values conflict with the nature of problem-focused coping, which requires self-prioritization and some degree of assertion to address or modify the cause of the stress (Chun, Moos, & Cronkite, 2006). Indeed, research in other areas of refugee mental health has shown mixed results for the utility of problem-focused coping. For instance, refugees from collectivistic societies do not benefit from utilizing problem-focused coping to mitigate the effects of discrimination and depression (Noh, Beiser, Kaspar, Hou, & Rummens, 1999). However, when refugees have greater alignment with the dominant culture where they are resettled (e.g., higher education, acculturation, and better employment), problem-focused coping is beneficial (Noh & Kaspar, 2003). Given the importance of cultural considerations in coping styles, future research may benefit from focusing on more culturally-specific coping behaviors and/or examining coping in the context of acculturative status to gain a better understanding of its role in transgenerational trauma.

Preliminary Analyses: Parenting Behavior

To examine potential mechanisms of the transgenerational trauma, the current study examined the relation between fearful/disoriented, negative/intrusive, and withdrawn parenting and maternal trauma symptomatology. Only negative/intrusive parenting was significantly related to maternal trauma symptomatology, the findings of which have been discussed in earlier sections. Although the lack of significant findings for fearful/disoriented parenting, withdrawn parenting, and maternal trauma symptomatology was unexpected, it is likely due to the fact that these parenting behaviors were infrequently observed in the current sample. Thus, it may be that fearful/disoriented and withdrawn parenting behaviors do not have cross-cultural utility within refugee families. Indeed, prior studies have indicated that typical and atypical parenting behaviors vary across cultures (Neckoway, Brownlee, & Castellan, 2007). For example, in Japan hypersensitive parenting is frequently utilized as a method of promoting the cultural value of interdependence. This behavior is observed with less frequency in Western cultures wherein it is viewed as counterproductive for promoting cultural values of independence (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000). Given the cultural dependence of parenting, future work would benefit from assuming a bottom-up approach to examining parenting within the refugee population. Specifically, conducting thematic evaluations of parent/infant interactions within families in the refugee community could be beneficial for researchers to classify atypical and typical parenting behaviors. Such work could help researchers better understand the cultural specific phenomena of parenting, transgenerational trauma, and family dynamics within this potentially at-risk population.

Limitations

Though specific limitations regarding the results of the study have been described throughout the discussion section, there are several overall study limitations that are important to note. The first limitation is the size of the sample in the current study. At 61 participants, the current study was underpowered for the moderated mediated model of transgenerational trauma; however, it had adequate power for direct pathways. As the refugee population is vulnerable and can be difficult to recruit, a sample of 61 participants for research in refugee mental health is considered quite large and exceeds that of most prior studies examining transgenerational trauma within the population (e.g., van Ee, Kleber, & Mooren, 2012; Dalgaard, Todd, Daniel, & Montgomery, 2016; Field et al., 2013). Regardless, given the power considerations, results of the current study should be interpreted with caution and future research would benefit from examining transgenerational trauma within larger samples of mother/infant refugee dyads.

A second limitation of the current study is that all data were gathered using a cross-sectional framework. Thus, it is impossible to determine the directionality of effects (e.g., if maternal psychological flexibility leads to greater infant cognitive development or vice versa). To better understand the developmental trajectory of transgenerational trauma in refugee families, future research would benefit from following a prenatal birth cohort. Such a design would allow for a better examination of the life course perspective of development by sequencing the developmental pattern of transgenerational trauma, examining it's origin, and studying the effects of accumulative exposure.

A final limitation of the current study is that many of the measures utilized in the current study had not been validated in the refugee population. Very few measures have

been specifically studied within refugees. When available, measures that had been used with or created for refugees were included in the current study, such as utilizing the HTQ-R to assess for maternal trauma symptomatology. For constructs that did not have refugee specific measures (i.e., coping, psychological flexibility, infant development, parenting), measures and standardized assessments that had been used in culturally diverse samples were chosen. Given the innate methodological limitations of research in the refugee population, it is imperative that future studies continue to refine existing measures and develop new measures when needed that assess psychosocial variables.

Conclusion

The current study provides limited support for transgenerational trauma in refugee infants. Despite the limited evidence for study hypotheses, the findings of the current study advance the understanding of the dynamic between trauma, resiliency, and parenting in refugee mothers. Specifically, results from the current study indicated that increased maternal trauma symptomatology is related to greater use of negative/intrusive parenting, a parenting style known to be related to a host of negative outcomes later in development. In addition, the findings of the current study indicate that increased psychological flexibility has positive outcomes for both mothers and their children as increases in the construct were related to decreased maternal trauma symptomatology and increased infant cognitive development. Future studies will benefit from the inclusion of larger samples and from investigating transgenerational trauma in refugee/mother infant dyads utilizing a longitudinal study design.

Table 1

Intercorrelations and Means of Study Variables

Variables	1	2	3	4	5	6	7	8	*Mean*
1. Maternal Trauma Symptomatology									1.75
2. Psychological Flexibility	-0.75 ***								3.02
3. Problem Focused Coping	0.00	-0.03							2.64
4. Emotion Focused Coping	0.38**	-0.34**	0.10						1.96
5. Fearful/Disoriented Parenting	0.12	-0.09	-0.14	-0.03					1.99
6. Negative/Intrusive Parenting	0.34*	-0.31*	0.04	0.15	0.12				3.58
7. Withdrawn Parenting	0.20	-0.11	0.10	0.09	0.45**	0.01			2.48
8. Infant Cognitive Development	-0.08	0.30*	0.12	0.08	-0.01	0.14	-0.01		109.90
9. Infant Social/Emotional Development	0.09	-0.03	0.12	0.25	0.05	0.18	-0.02	0.25	103.39

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

Table 2

Intercorrelations between proposed covariates and infant development variables

Variables	1	2	3	4	5
1. Infant Cognitive Development					
2. Infant Social/Emotional Development	0.25				
3. Maternal age	-0.05	-0.12			
4. Education	0.36**	-0.16	-0.27*		
5. Number of children	0.04	0.03	0.55***	-0.29*	
6. Familial income	0.16	0.06	-0.01	0.15	-0.07

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

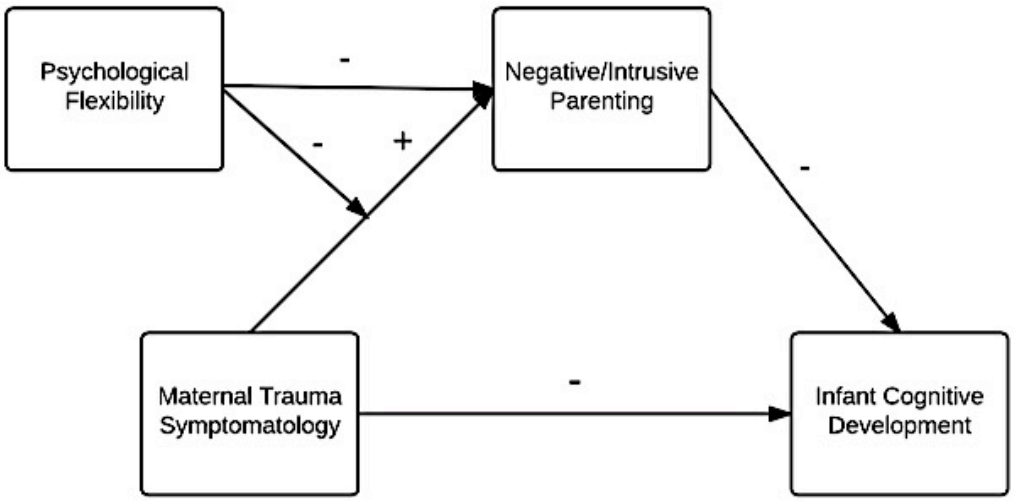

Figure 1. Conceptual model of transgenerational trauma in refugee infants

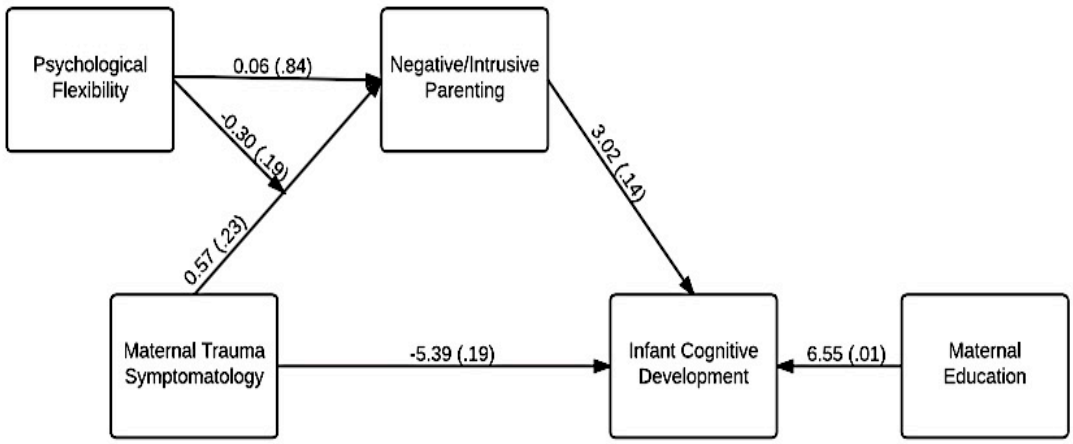

Figure 2. Model predicting infant cognitive development

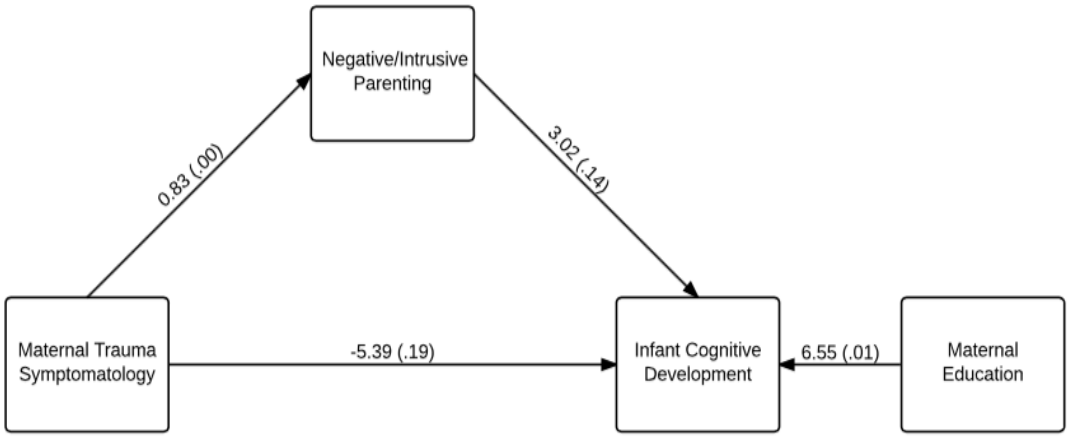

Figure 3. Exploratory model of maternal trauma predicting infant cognitive development

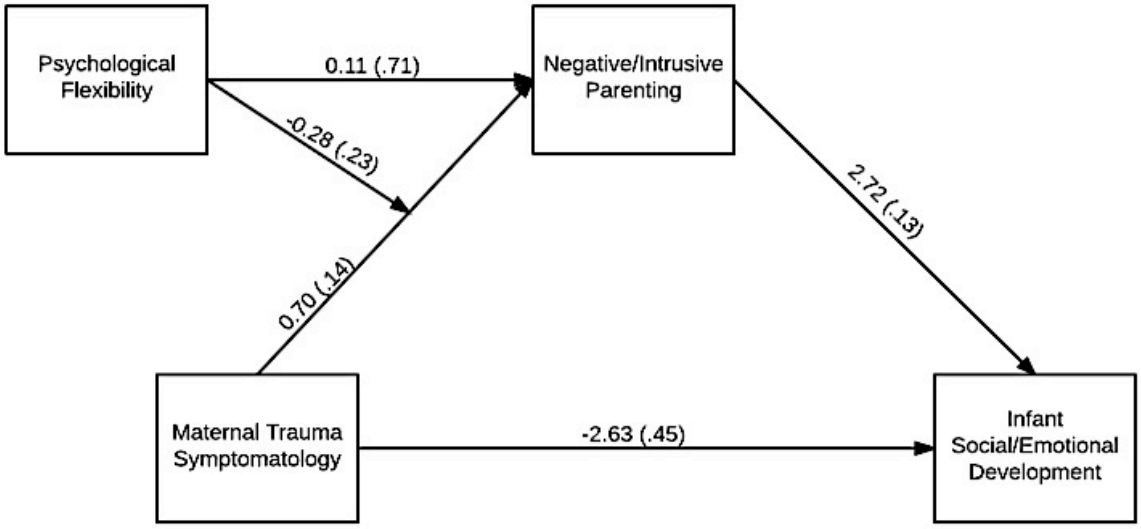

Figure 4. Model predicting infant social/emotional development

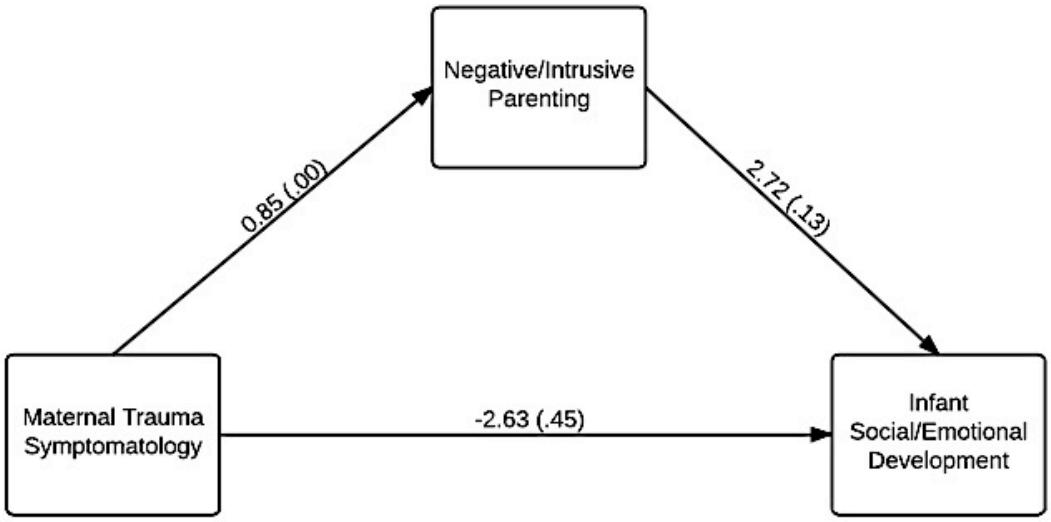

Figure 5. Exploratory model predicting infant social/emotional development

References

Addison, C. C., Campbell-Jenkins, B. W., Sarpong, D. F., Kibler, J., Singh, M., Dubbert, P., ... & Taylor, H. (2007). Psychometric evaluation of a coping strategies inventory short-form (CSI-SF) in the Jackson heart study cohort. *International Journal of Environmental Research and Public Health*, *4*(4), 289-295. doi: 10.3390/ijerph200704040004

Ainsworth, M. D. S. (1969). Ainsworth maternal scales. Retrieved (as Maternal Sensitivity Scales) from http://www.psychology.sunysb.edu/attachment/measures/content/ainsworth_scales.html

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Ahmadzadeh, G. H., & Malekian, A. (2004). Aggression, anxiety, and social development in adolescent children of war veterans with PTSD versus those of non-veterans. *Journal of Research in Medical Sciences, 9*(5), 231-234.

Ainsworth, M. S. (1979). Infant–mother attachment. *American Psychologist, 34*(10), 932-937. doi:10.1037/0003-066X.34.10.932

Ayotte, W. (2001). Separated children seeking asylum in Canada. *Ottawa: United Nations High Commissioner for Refugees., 18*, 2-64.

Baillargeon, R., & Graber, M. (1988). Evidence of location memory in 8-month-old infants in a nonsearch AB task. *Developmental Psychology, 24*(4), 502-511. doi:10.1037/0012-1649.24.4.502

Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & Kroonenberg, P. M. (2004). Differences in attachment security between African-American and white children: Ethnicity or socio-economic status? *Infant Behavior and Development, 27*(3), 417-433. doi:10.1016/j.infbeh.2004.02.002

Barlow, J., van der Voort, A., Juffer, F., & Bakermans-Kranenburg, M. (2014). Sensitive parenting is the foundation for secure attachment relationships and positive social-emotional development of children. *Journal of Children's Services, 9*(2), 165-176.

Bayley, N. (2005). *Bayley Scales of Infant and Toddler Development- Third Edition*: The Psychological Corporation.

Berman, H. (2001). Children and war: Current understandings and future directions. *Public Health Nursing, 18*(4), 243-252. doi:10.1046/j.1525-1446.2001.00243.x

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., . . . Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*(4), 676-688. doi:10.1016/j.beth.2011.03.007

Bracken, P. J., & Petty, C. (1998). *Rethinking the trauma of war*. London, England: Free Association Books London.

Brassell, A. A., Rosenberg, E., Parent, J., Rough, J. N., Fondacaro, K., & Seehuus, M. (2016). Parent's psychological flexibility: Associations with parenting and child psychosocial well-being. *Journal of Contextual Behavioral Science*. doi:10.1016/j.jcbs.2016.03.001

Cabrera, N. J., Shannon, J. D., & Tamis-LeMonda, C. (2007). Fathers' influence on their children's cognitive and emotional development: From toddlers to pre-K. *Applied Development Science, 11*(4), 208-213. doi:10.1080/10888690701762100

Calkins, S. D., & Leerkes, E. M. (2004). Early attachment processes and the development of emotional self-regulation. In K. D. Vohs & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 324-339). New York, NY: The Guilford Press.

Cheron, D. M., Ehrenreich, J. T., & Pincus, D. B. (2009). Assessment of parental experiential avoidance in a clinical sample of children with anxiety disorders. *Child Psychiatry and Human Development, 40*(3), 383-403. doi:10.1007/s10578-009-0135-z

Chun, C., Moos, R. H., & Cronkite, R. C. (2006). Culture: A fundamental context for the stress and coping paradigm. In P. T. Wong & L. C. J. Wong (Eds.), *Handbook of Multicultural Perspectives on Stress and Coping* (pp. 29-53).

Cohen, L. R., Hien, D. A., & Batchelder, S. (2008). The impact of cumulative maternal trauma and diagnosis on parenting behavior. *Child Maltreatment, 13*(1), 27-38. doi:10.1177/1077559507310045

Cooper, C., Katona, C., Orrell, M., & Livingston, G. (2008). Coping strategies, anxiety and depression in caregivers of people with Alzheimer's disease. *International Journal of Geriatric Psychiatry, 23*(9), 929-936. doi:10.1002/gps.2007

Csibra, G. (2008). Goal attribution to inanimate agents by 6.5-month-old infants. *Cognition, 107*(2), 705-717. doi:10.1016/j.cognition.2007.08.001

Dalgaard, N. T., Todd, B. K., Daniel, S. I., & Montgomery, E. (2016). The transmission of trauma in refugee families: Associations between intra-family trauma communication style, children’s attachment security and psychosocial adjustment.

Attachment & Human Development, 18(1), 69-89. doi:10.1080/14616734.2015.1113305

Daud, A., af Klinteberg, B., & Rydelius, P. A. (2008). Resilience and vulnerability among refugee children of traumatized and non-traumatized parents. *Child and Adolescent Psychiatry and Mental Health, 2*(1), 1-11. doi:10.1186/1753-2000-2-7

Daud, A., Skoglund, E., & Rydelius, P. A. (2005). Children in families of torture victims: Transgenerational transmission of parents' traumatic experiences to their children. *International Journal of Social Welfare, 14*(1), 23-32. doi:DOI 10.1111/j.1468-2397.2005.00336.x

Davidson, A. C., & Mellor, D. J. (2001). The adjustment of children of Australian Vietnam veterans: Is there evidence for the transgenerational transmission of the effects of war-related trauma? *Australian and New Zealand Journal of Psychiatry, 35*(3), 345-351. doi:10.1046/j.1440-1614.2001.00897.x

Davidson, J., Smith, R., & Kudler, H. (1989). Familial psychiatric illness in chronic posttraumatic stress disorder. *Comprehensive Psychiatry, 30*(4), 339-345.

Dawson, G., Hessl, D., & Frey, K. (1994). Social influences on early developing biological and behavioral systems related to risk for affective disorder. *Development and Psychopathology, 6*(4), 759-779. doi:10.1017/S0954579400004776

De Rosnay, M., Cooper, P. J., Tsigaras, N., & Murray, L. (2006). Transmission of social anxiety from mother to infant: An experimental study using a social referencing paradigm. *Behaviour Research and Therapy, 44*(8), 1165-1175. doi:10.1016/j.brat.2005.09.003

Degnan, K. A., Calkins, S. D., Keane, S. P., & Hill-Soderlund, A. L. (2008). Profiles of disruptive behavior across early childhood: Contributions of frustration reactivity, physiological regulation, and maternal behavior. *Child Development, 79*(5), 1357-1376. doi:10.1111/j.1467-8624.2008.01193.x

DiLalla, L. F., Thompson, L. A., Plomin, R., Phillips, K., Fagan III, J. F., Haith, M. M., . . . Fulker, D. W. (1990). Infant predictors of preschool and adult IQ: A study of infant twins and their parents. *Developmental Psychology, 26*(5), 759. doi:10.1037/0012-1649.26.5.759

Elder, G. H., Jr. (1998). The life course as developmental theory. *Child Development, 69*(1), 1-12.

Fazel, M., & Stein, A. (2003). Mental health of refugee children: Comparative study. *British Medical Journal, 327*(7407), 366-370. doi:10.1136/adc.87.5.366

Fazel, M., Wheeler, J., & Danesh, J. (2005). Prevalence of serious mental disorder in 7000 refugees resettled in western countries: A systematic review. *The Lancet, 365*(9467), 1309-1314. doi:10.1016/S0140-6736(05)61027-6

Fear, N. T., Seddon, R., Jones, N., Greenberg, N., & Wessely, S. (2012). Does anonymity increase the reporting of mental health symptoms? *BMC Public Health, 12*, 797. doi:10.1186/1471-2458-12-797

Field, N. P., Muong, S., & Sochanvimean, V. (2013). Parental styles in the intergenerational transmission of trauma stemming from the Khmer Rouge regime in Cambodia. *American Journal of Orthopsychiatry, 83*(4), 483-494. doi:10.1111/ajop.12057

Field, T., Estroff, D. B., Yando, R., del Valle, C., Malphurs, J., & Hart, S. (1996). "Depressed" mothers' perceptions of infant vulnerability are related to later development. *Child Psychiatry and Human Development, 27*(1), 43-53.

Fledderus, M., Oude Voshaar, M. H., ten Klooster, P. M., & Bohlmeijer, E. T. (2012). Further evaluation of the psychometric properties of the Acceptance and Action Questionnaire–II. *Psychological Assessment, 24*(4), 925-936. doi:10.1037/a0028200

Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, 219-239.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology, 55*, 745-774. doi:10.1146/annurev.psych.55.090902.141456

Frazier, K. N., West-Olatunji, C. A., St Juste, S., & Goodman, R. D. (2009). Transgenerational trauma and child sexual abuse: Reconceptualizing cases involving young survivors of CSA. *Journal of Mental Health Counseling, 31*(1), 22-33.

Gergely, G., Nádasdy, Z., Csibra, G., & Bíró, S. (1995). Taking the intentional stance at 12 months of age. *Cognition, 56*(2), 165-193. doi:10.1016/0010-0277(95)00661-H

Gergely, G., & Watson, J. S. (1996). The social biofeedback model of parental affect-mirroring. *The International Journal of Psycho-Analysis, 77*(6), 1181.

Gervai, J., Novak, A., Lakatos, K., Toth, I., Danis, I., Ronai, Z., . . . Bronfman, E. (2007). Infant genotype may moderate sensitivity to maternal affective communications: Attachment disorganization, quality of care, and the DRD4 polymorphism. *Social Neuroscience, 2*(3-4), 307-319. doi:10.1080/17470910701391893

Ghodsian, M., Zajicek, E., & Wolkind, S. (1984). A longitudinal study of maternal depression and child behaviour problems. *Journal of Child Psychology Psychiatry, 25*(1), 91-109. doi:10.1111/j.1469-7610.1984.tb01721.x

Hails, K. A., Reuben, J. D., Shaw, D. S., Dishion, T. J., & Wilson, M. N. (2017). Transactional associations among maternal depression, parent-child coercion, and child conduct problems during early childhood. *Journal of Clinical Child and Adolescent Psychology*, 1-15. doi:10.1080/15374416.2017.1280803

Hart, S. L., Carrington, H. A., Tronick, E. Z., & Carroll, S. R. (2004). When infants lose exclusive maternal attention: Is it jealousy? *Infancy, 6*(1), 57-78. doi:10.1207/s15327078in0601_3

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY. Guilford Press.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy, 44*(1), 1-25. doi:10.1016/j.brat.2005.06.006

Hesse, E., & Main, M. (2000). Disorganized infant, child, and adult attachment: Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association, 48*(4), 1097-1127. doi:10.1177/00030651000480041101

Hughes, C., Roman, G., Hart, M. J., & Ensor, R. (2013). Does maternal depression predict young children's executive function? - a 4-year longitudinal study. *Journal of Child Psychology Psychiatry, 54*(2), 169-177. doi:10.1111/jcpp.12014

Jaffee, S. R. (2007). Sensitive, stimulating caregiving predicts cognitive and behavioral resilience in neurodevelopmentally at-risk infants. *Development and Psychopathology, 19*(03), 631-647. doi:10.1017/S0954579407000326

Kaitz, M., Levy, M., Ebstein, R., Faraone, S. V., & Mankuta, D. (2009). The intergenerational effects of trauma from terror: A real possibility. *Infant Mental Health Journal, 30*(2), 158-179. doi:10.1002/imhj.20209

Karekla, M., & Panayiotou, G. (2011). Coping and experiential avoidance: Unique or overlapping constructs? *Journal of Behavior Therapy and Experimental Psychiatry, 42*(2), 163-170. doi:10.1016/j.jbtep.2010.10.002

Karunakara, U. K., Neuner, F., Schauer, M., Singh, K., Hill, K., Elbert, T., & Burnham, G. (2004). Traumatic events and symptoms of post-traumatic stress disorder amongst Sudanese nationals, refugees and Ugandans in the West Nile. *African Health Sciences, 4*(2), 83-93.

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review, 30*(7), 865-878. doi:10.1016/j.cpr.2010.03.001

Kashdan, T. B., & Steger, M. F. (2006). Expanding the topography of social anxiety. An experience-sampling assessment of positive emotions, positive events, and emotion suppression. *Psychological Science, 17*(2), 120-128. doi:10.1111/j.1467-9280.2006.01674.x

King, S., & Laplante, D. P. (2005). The effects of prenatal maternal stress on children's cognitive development: Project Ice Storm. *Stress, 8*(1), 35-45. doi:10.1080/10253890500108391

Landry, S. H., Smith, K. E., Miller-Loncar, C. L., & Swank, P. R. (1997). Predicting cognitive-language and social growth curves from early maternal behaviors in children at varying degrees of biological risk. *Developmental Psychology, 33*(6), 1040. doi:10.1037/0012-1649.33.6.1040

Lang, A. J., Gartstein, M. A., Rodgers, C. S., & Lebeck, M. M. (2010). The impact of maternal childhood abuse on parenting and infant temperament. *Journal of Child and Adolescent Psychiatric Nursing, 23*(2), 100-110. doi:10.1111/j.1744-6171.2010.00229.x

Laurent, H. K., Leve, L. D., Neiderhiser, J. M., Natsuaki, M. N., Shaw, D. S., Harold, G. T., & Reiss, D. (2013). Effects of prenatal and postnatal parent depressive symptoms on adopted child HPA regulation: Independent and moderated influences. *Developmental Psychology, 49*(5), 876. doi:10.1037/a0028800

Leen-Feldner, E. W., Feldner, M. T., Bunaciu, L., & Blumenthal, H. (2011). Associations between parental posttraumatic stress disorder and both offspring internalizing problems and parental aggression within the National Comorbidity Survey-Replication. *Journal of Anxiety Disorders, 25*(2), 169-175. doi:10.1016/j.janxdis.2010.08.017

Lemelin, J. P., Tarabulsy, G. M., & Provost, M. (2006). Predicting preschool cognitive development from infant temperament, maternal sensitivity, and psychosocial risk. *Merrill-Palmer Quarterly, 52*(4), 779-804.

Lev–Wiesel, R. (2007). Intergenerational transmission of trauma across three generations: A preliminary study. *Qualitative Social Work, 6*(1), 75-94. doi:10.1177/1473325007074167

Linley, P. A., & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress, 17*(1), 11-21.

Lyons-Ruth, K., & Block, D. (1996). The disturbed caregiving system: Relations among childhood trauma, maternal caregiving, and infant affect and attachment. *Infant Mental Health Journal, 17*(3), 257-275.

Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Maternal frightened, frightening, or atypical behavior and disorganized infant attachment patterns. *Monographs of the Society for Research in Child Development*, 67-96.

Madigan, S., Bakermans-Kranenburg, M. J., Van Ijzendoorn, M. H., Moran, G., Pederson, D. R., & Benoit, D. (2006). Unresolved states of mind, anomalous parental behavior, and disorganized attachment: A review and meta-analysis of a transmission gap. *Attachment & Human Development, 8*(2), 89-111. doi:10.1080/14616730600774458

Main, M. (2000). The organized categories of infant, child, and adult attachment: Flexible vs. inflexible attention under attachment-related stress. *Journal of the American Psychoanalytic Association, 48*(4), 1055-1096. doi:10.1177/00030651000480041801

Main, M., & George, C. (1985). Responses of abused and disadvantaged toddlers to distress in agemates: A study in the day care setting. *Developmental Psychology, 21*(3), 407-412. doi:10.1037/0012-1649.21.3.407

Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 161-184). Chicago, IL: University of Chicago Press.

Mares, S. & Powrie, R. (2008). Infants in refugee and asylum-seeker families. In A.S. Williams & V. Cowling (Eds.), *Infants of Parents with Mental Illness*. Australia: Australian Academic Press.

Marx, B. P., & Sloan, D. M. (2005). Peritraumatic dissociation and experiential avoidance as predictors of posttraumatic stress symptomatology. *Behaviour Research and Therapy, 43*(5), 569-583. doi:10.1016/j.brat.2004.04.004

McCracken, L. M., & Zhao-O'Brien, J. (2010). General psychological acceptance and chronic pain: There is more to accept than the pain itself. *European Journal of Pain, 14*(2), 170-175. doi:10.1016/j.ejpain.2009.03.004

McLaughlin, K. A., Mennin, D. S., & Farach, F. J. (2007). The contributory role of worry in emotion generation and dysregulation in generalized anxiety disorder. *Behavior Research and Therapy, 45*(8), 1735-1752. doi:10.1016/j.brat.2006.12.004

McMahan True, M., Pisani, L., & Oumar, F. (2001). Infant–mother attachment among the Dogon of Mali. *Child Development, 72*(5), 1451-1466. doi:10.1111/1467-8624.00359

Mollica, R. F., McDonald, L. S., Massagli, M. P., & Silove, D. M. (2004). *Measuring trauma, measuring torture*. Cambridge, MA.

Moore, G. A., & Calkins, S. D. (2004). Infants' vagal regulation in the still-face paradigm is related to dyadic coordination of mother-infant interaction. *Developmental Psychology, 40*(6), 1068. doi:10.1037/0012-1649.40.6.1068

Mundkur, N. (2005). Neuroplasticity in children. *The Indian Journal of Pediatrics, 72*(10), 855-857.

Murray, L., & Cooper, P. (1997). Effects of postnatal depression on infant development. *Archives of Disease in Childhood, 77*(2), 99-101. doi:10.1136/adc.77.2.99

Neckoway, R., Brownlee, K., & Castellan, B. (2007). Is attachment theory consistent with Aboriginal parenting realities? *First Peoples Child and Family Review, 3*(2), 65-74.

NIH. (2000). The relation of child care to cognitive and language development. *Child Development*, 960-980.

Noh, S., Beiser, M., Kaspar, V., Hou, F., & Rummens, J. (1999). Perceived racial discrimination, depression, and coping: a study of Southeast Asian refugees in Canada. *Journal of Health and Social Behavior, 40*(3), 193-207. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10513144

Noh, S., & Kaspar, V. (2003). Perceived discrimination and depression: Moderating effects of coping, acculturation, and ethnic support. *American Journal of Public Health, 93*(2), 232-238. doi:10.2105/AJPH.93.2.232

Noll, J. G. (2005). Does childhood sexual abuse set in motion a cycle of violence against women? What we know and what we need to learn. *Journal of Interpersonal Violence, 20*(4), 455-462. doi:10.1177/0886260504267756

Propper, C., Willoughby, M., Halpern, C. T., Carbone, M. A., & Cox, M. (2007). Parenting quality, DRD4, and the prediction of externalizing and internalizing behaviors in early childhood. *Developmental Psychobiology, 49*(6), 619-632. doi:10.1002/dev.20249

Rochat, P., & Striano, T. (1999). Emerging self-exploration by 2-month-old infants. *Developmental Science, 2*(2), 206-218. doi:10.1111/1467-7687.00069

Rosenblum, K. L., Dayton, C. J., & Muzik, M. (2009). Infant social and emotional development. In C. H. Zeanah (Ed.), *Handbook of infant mental health* (Vol. 3, pp. 80-103). New York, NY: The Guilford Press.

Rothbaum, F., Weisz, J., Pott, M., Miyake, K., & Morelli, G. (2000). Attachment and culture. Security in the United States and Japan. *American Psychologist, 55*(10), 1093-1104. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11080829

Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social–behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73*(2), 483-495. doi:10.1111/1467-8624.00419

Ryan, R., Martin, M., & Brooks-Funn, J. (2006). Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months. *Parenting, 6*(2-3), 211-228. doi:10.1080/15295192.2006.9681306

Sack, W. H., Clarke, G. N., & Seeley, J. (1995). Posttraumatic stress disorder across two generations of Cambodian refugees. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(9), 1160-1166. doi:10.1097/00004583-199509000-00013

Schuder, M. R., & Lyons-Ruth, K. (2004). Hidden Trauma in infancy: Attachment, fearful arousal, and early dysfunction of the stress response system. In J. D. Osofsky (Ed.), *Young children and trauma: Intervention and treatment* (pp. 69-104). New York, NY: The Guilford Press.

Sheridan, M., & Nelson, C. A. (2009). Neurobiology of fetal and infant development. In C. Zeanah Jr (Ed.), *Handbook of infant mental health* (Vol. 3, pp. 40-58). New York, NY: The Guilford Press.

Silove, D., Steel, Z., McGorry, P., Miles, V., & Drobny, J. (2002). The impact of torture on post-traumatic stress symptoms in war-affected Tamil refugees and immigrants. *Comprehensive Psychiatry, 43*(1), 49-55. doi:10.1053/comp.2002.29843

Smith, L. E., Seltzer, M. M., Tager-Flusberg, H., Greenberg, J. S., & Carter, A. S. (2008). A comparative analysis of well-being and coping among mothers of toddlers and mothers of adolescents with ASD. *Journal of Autism and Developmental Disorders, 38*(5), 876-889. doi:10.1007/s10803-007-0461-6

Song, S. J., de Jong, J., O'Hara, R., & Koopman, C. (2013). Children of former child soldiers and never-conscripted civilians: A preliminary intergenerational study in Burundi. *Journal of Aggression, Maltreatment & Trauma, 22*(7), 757-772. doi: 10.1080/10926771.2013.813881

Spinrad, T. L., & Stifter, C. A. (2006). Toddlers' empathy-related responding to distress: Predictions from negative emotionality and maternal behavior in infancy. *Infancy, 10*(2), 97-121. doi:10.1207/s15327078in1002_1

Stern, D. N., Hofer, L., Haft, W., & Dore, J. (1985). Affect attunement: The sharing of feeling states between mother and infant by means of inter-modal fluency. In T. Field & N. A. Fox (Eds.), *Social perception in infants* (pp. 249-268). Norwood, NJ: Ablex.

Tein, J., Sandler, I. N., & Zautra, A. J. (2000). Stressful life events, psychological distress, coping, and parenting of divorced mothers: A longitudinal study. *Journal of Family Psychology, 14*(1), 27-41. doi:10.1037/0893-3200.14.1.27

Termine, N. T., & Izard, C. E. (1988). Infants' responses to their mothers' expressions of joy and sadness. *Developmental Psychology, 24*(2), 223-229. doi:10.1037/0012-1649.24.2.223

Thompson, R. A. (1991). Emotional regulation and emotional development. *Educational Psychology Review, 3*(4), 269-307. doi:10.1007/BF01319934

Tischler, V. A., & Vostanis, P. (2007). Homeless mothers: Is there a relationship between coping strategies, mental health and goal achievement? *Journal of Community & Applied Social Psychology, 17*(2), 85-102. doi:10.1002/casp.879

Tomlinson, M., Cooper, P., & Murray, L. (2005). The Mother–Infant Relationship and Infant Attachment in a South African Peri-Urban Settlement. *Child Development, 76*(5), 1044-1054. doi:10.1111/j.1467-8624.2005.00896.x

UNHCR, (2017). Global trends: Forced displacement in 2016. Retrieved from: http://www.refworld.org/docid/57678f3d4.html .

van Ee, E., Kleber, R. J., & Mooren, T. (2012). War trauma lingers on: Associations between maternal posttraumatic stress disorder, parent–child interaction, and child development. *Infant Mental Health Journal, 33*(5), 459-468. doi:10.1002/imhj.21324

Van Ijzendoorn, M. H., Bakermans-Kranenburg, M. J., & Sagi-Schwartz, A. (2003). Are children of Holocaust survivors less well-adapted? A meta-analytic investigation of secondary traumatization. *Journal of Traumatic Stress, 16*(5), 459-469. doi:10.1023/A:1025706427300

Waters, E., Kondo-Ikemura, K., Posada, G., & Richters, J. E. (1991). Learning to love: Milestones and mechanisms. In M. Gunner & L. A. Sroufe (Eds.), *The Minnesota Symposia on Child Psychology* (Vol. 23, pp. 217-255). Hillsdale, NJ: Erlbaum.

Watters, C. (2001). Emerging paradigms in the mental health care of refugees. *Social Science & Medicine, 52*(11), 1709-1718. doi:10.1016/S0277-9536(00)00284-7

Williams, K. E., Ciarrochi, J., & Heaven, P. C. L. (2012). Inflexible parents, inflexible kids: A 6-year longitudinal study of parenting style and the development of psychological flexibility in adolescents. *Journal of Youth and Adolescence, 41*(8), 1053-1066. doi:10.1007/s10964-012-9744-0

Wolff, M. S., & Ijzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*(4), 571-591. doi:10.1111/j.1467-8624.1997.tb04218.x

Yehuda, R., Halligan, S. L., & Bierer, L. M. (2001). Relationship of parental trauma exposure and PTSD to PTSD, depressive and anxiety disorders in offspring. *Journal of Psychiatric Research, 35*(5), 261-270. doi:10.1016/S0022-3956(01)00032-2

Zeanah, C. H. (2009). *Handbook of infant mental health*. New York, NY: Guilford Press.

Zvolensky, M. J., & Eifert, G. H. (2000). A review of psychological factors processes affecting anxious responding during voluntary hyperventilation and inhalatio