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DOCTORAL THESIS

THE ROLE OF MATERNAL EXPERIENCE OF CHILDHOOD TRAUMA, SYMPTOMS OF DEPRESSION, ADULT ATTACHMENT STYLE, AND PARENTAL REFLECTIVE FUNCTIONING ON PRESCHOOL CHILDREN'S SOCIO-EMOTIONAL DEVELOPMENT AND THEORY OF MIND IN A CHILEAN POPULATION.

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INDEX

Abstract

The purpose of this study was to examine the relationship that maternal experience of early childhood trauma, symptoms of depression, adult attachment style, and parental reflective functioning has on their preschool child's socio-emotional development and development of Theory of Mind, as these are parental variables often found to co-exist and/or affect one another, however the mechanisms through which they affect child's development is still a subject of study. The participants of this study were 125 mother-child dyads who were part of the FONDECYT Project 1130786. Results from this study show that maternal symptoms of depression and lower parental reflective functioning significantly predicted a risk to their child's socioemotional development. Interestingly, avoidant attachment style significantly predicted decreased levels of parental reflective functioning, whereas anxious attachment style, and childhood trauma significantly predicted maternal symptoms of depression. This particular study found that when differentiating between different types of trauma, the experience of sexual abuse during childhood significantly predicted maternal symptoms of depression and its indirect effect on the child's socioemotional development was close to being statistically significant. Finally, this study sought to explore the mediator role of parental reflective functioning and found that both parental reflective functioning and symptoms of depression mediated the effect that childhood experience of trauma and insecure attachment styles had on children's socio-emotional development.

Introduction

The parent-child relationship is unmatched in its effects on the psychological, physical, and physiological development of children. The quality of early relational experiences has lasting implications on the cognitive schemas that will later affect the child's interpersonal and social functioning. It has been evidenced that an infant's brain is a "social brain", equipped with the mechanisms and structures necessary to detect, facilitate, and respond to imitation, affiliation, and intimacy (Happe & Frith, 2014). As a result, parental contingency, responsiveness, and sensitivity are essential to the child's socioemotional wellbeing. From a neurological perspective, the parent-child relationship promotes levels of oxytocin and vasopressin in developing children, both essential hormones in social bonding, homeostasis, and social recognition (Carter, Williams, Witt, & Insel, 1992). From a psychological perspective, the quality of the parent-child relationship and attachment bond have been associated to a wide range of developmental outcomes, like the ability to form healthy and intimate relationships and the ability to function socially and academically.

From very early on social reciprocity and parental synchrony are essential to the socio-cognitive development of children, making way for emotional comprehension of the self and others that becomes increasingly more profound and complex as development takes place. One of the processes underlying these capabilities is mentalization. Fonagy et al. (2002) assert that the process of mentalization is inherently human and part of our essence as social beings. Mentalization is understood as the capacity to comprehend mental states of oneself and of others (Fonagy, Steele, Moran, Steele, & Higgit, 1991). Similarly, parental mentalization is the capacity a parent has to reflect on their own experiences and their child's, understanding that their child's behavior is driven by underlying mental states (Slade, 2005). Mentalization and reflective functioning are two terms that are often used interchangeably, although reflective functioning (RF)

is an operationalized construct that refers to "the mental capacities that generate mentalization" (Fonagy, Gergely, Jurist, & Target, 2002, pg. 3). In the same line, parental reflective functioning (PRF) refers to the overt capacity a parent has to reflect on the child's experience, displaying genuine curiosity about the child's mental states and recognizing that mental states underlie the child's behaviors (Bottos & Nilsen, 2014).

There are a number of factors that can affect PRF, one of which is parental experience of early childhood trauma. Growing up in an environment characterized by maltreatment can debilitate mentalizing capacities, as reflectiveness becomes hindered in this context and thus can potentially distort mentalization (Fonagy et al., 2002). Abusive and negligent households can be related to insecure attachment patterns, while at the same time resulting in mentalizing failures. This is especially true when the experience of trauma occurs within the family unit and the primary caregivers are the perpetrators of abuse. Assessed through neglect and abuse, childhood trauma can have immediate effects, as well as potential intergenerational effects, coloring the attachment relationship and mentalizing capacities in children of parents who have survived early experiences of trauma (Lawsom, Davis, & Brandon, 2013). As such, parents who have negative representations of their own childhood can form incorrect assumptions and misinterpretations from their children's behaviors that could pose problematic parent-child relational issues (Kelland, Fagerlund, von Koskull, & Pajulo, 2016).

Depression is one of the most common sequela of early experience of trauma (Bottos & Nilsen, 2014) and has also been linked to insecure attachment patterns and mentalizing failures (Pawlby et al., 2010). As such, symptoms of depression have also been found to potentially compromise parental mentalizing capacities (Bottos & Nilsen, 2014). In this same line, symptoms of maternal depression have been linked to mentalizing failures in children, for example, Hughes

& Ensor (2009) found that 3 to 4-year-old children of depressed mothers had difficulty adequately identifying emotional expression and affective states in others. In another study of 91 children, Rohrer, Cicchetti, Rogosch, Toth, & Maughan (2011) found that 5-year-olds whose mothers experienced symptoms of depression showed significant difficulties in false-belief tasks, a measure of mentalizing abilities. It has been hypothesized that the characteristics of symptoms of depression like irritability and isolation affect the capacity of adults to engage in the mental states of those around them, especially their own children (Pawlby et al., 2010). Maternal experiences of depression have the potential to affect parenthood and can have consequences that affect the upbringing and development of the child, especially concerning mentalization.

The objective of this study is to analyze the effects that maternal experience of childhood trauma, symptoms of depression, adult attachment style, and parental reflective functioning have on their preschool children in terms of socio-emotional development and Theory of Mind (ToM). The preschool period is a developmental stage during which children begin to implement their internal resources. Among the milestones reached during this stage is the capacity to regulate emotions and behaviors, form relationships to peers, and detect social cues that allow them to form positive relationships (Farkas, Grothusen, Muñoz, & von Freeden, 2006). The preschool period puts to test the skills children have acquired through their caregivers and environment in a new and changing context. This stage is also important for children in that they learn to recognize and understand mental states and to understand that others have thoughts that differ from theirs, namely, they begin to develop a Theory of Mind (ToM) (Laranjo, Bernier, Meins, & Carlson, 2010). The development of ToM goes hand in hand with the socio-emotional development of children and both are developed in the context of early experiences to primary attachment figures.

This study seeks to explore the relationship that maternal childhood experience of trauma, symptoms of depression, adult attachment style, and parental reflective functioning has to the development of Theory of Mind and to the socioemotional development of preschool children in Chile. The children evaluated were between the ages of 3 and 5 years old, a total of 125 mother/child dyads were evaluated. The children evaluated attended JUNJI preschools (JUNJI schools are free, government funded Chilean preschools whose goal is to provide public preschool education to underserved, low-income communities). The data used for this study is secondary data belonging to the FONDECYT 1130786 project. The participating mothers were assessed for trauma with the *Childhood Trauma Questionnaire* (Bernstein et al., 2003), assessed for symptoms of depression using the *Beck Depression Inventory* (Beck et al., 1961), assessed for adult attachment style using the *Experiences in Close Relationships* scale (Brennan, Clark, & Shaver, 1988), and for parental mentalizing capabilities using the *Parental Reflective Questionnaire* (Luyten et al., 2009). The children were evaluated for their socio-emotional development with the *Ages and Stages Questionnaire-SE* (Squires, Bricker, & Potter, 1997) and for their mentalizing capabilities with the *Theory of Mind Evaluation* (Farkas, 2013). This study sought to explore the role that Parental Reflective Functioning would have in mediating the relationship between childhood experience of trauma, symptoms of depression, and adult attachment style to the variables considered for their children, socioemotional development and Theory of Mind. This study expected to find that greater maternal experience of trauma would increase maternal symptoms of depression, insecurity of attachment, and decrease parental reflective functioning, resulting in higher risk to their offspring's socioemotional development and negatively impact their children's Theory of Mind capabilities. Additionally, this research paper seeks to explore if the different types of traumas assessed had specifically pronounced effects on maternal symptoms

of depression, parental reflective functioning, and adult attachment style, and if these effects posed a greater risk to their child's socioemotional development and Theory of Mind than other types of trauma.

The study also sought to describe and analyze the effects that different types of trauma had to the overall relationship between the variables.

Rationale for the Study

This study inserts itself in a line of research that seeks to contribute to our knowledge regarding the intergenerational effects of early childhood traumatic experiences. Early childhood trauma has profound and lasting effects that range from physical to psychological sequela that affects individuals on different levels. The experience of trauma has important effects on child development, however, the unresolved experience of early childhood trauma has its potentially most devastating effects when that child becomes an adult and eventually a parent. Fraiberg et al. (1975) stated that the painful experience of fear and helplessness inherent to childhood trauma can "haunt" the parent-child relationship, ultimately affecting the healthy development of the child. While Fraiberg et al. (1975) talk about the presence of these "ghosts" left behind by trauma, Fonagy et al. (2002) talk about the absence of mentalizing in parent-child relationships where there has been significant exposure to traumatic events. Mentalization refers to an individual's capacity to understand and reflect on one's own and other's mental states and the understanding that other's behaviors are guided by mental states (Fonagy et al., 2002). Thus far, research has indicated that maltreating households inherently stunt mentalizing, as this type of environment is not conducive to openly talking about and reflecting on mental states (Bottos & Nilsen, 2014). As one of the most common sequela of early childhood trauma, depression has also been observed to compromise mentalizing development (Cicchetti, Rogosch, Toth, &

Maughan, 2011; Hughes & Ensor, 2009). To date, studies have suggested that adults who were victims of childhood trauma and who have experienced symptoms of depression show mentalizing deficits (Cicchetti, Rogosch, Toth, & Maughan, 2011; Aust, Härtwig, Heuser, & Bajbouj, 2013), and clinical literature has focused on the effects that parental experience of childhood trauma and the experience of symptoms of depression can have on their children's mentalizing development (Fonagy, Gergely, Jurist, & Target, 2004). Additionally, Bottos & Nilsen (2014) evaluated 106 mother-child dyads and assessed for symptoms of depression, experience of childhood trauma, maternal reflective functioning, and children's Theory of Mind, also looking to differentiate the effects that different types of trauma had on maternal and child mentalization, hypothesizing that emotional maltreatment would have the most significant effects. Their results highlighted the high rates of childhood history of trauma in women experiencing symptoms of depression and found that significant trauma and the experience of symptoms of depression showed the most pernicious effects for their children's mentalizing capacities, highlighting the significant impact that cumulative experience of adversity can have throughout the lifespan and intergenerationally. Furthermore, their study found that parent's experience of emotional maltreatment significantly predicted their children's mentalizing abilities at a higher rate than other types of abuse. The present study sought to expand on this study in terms of addressing potential effects on children's socioemotional development, as we know that maternal experience of trauma can adversely affect offspring health, but we are still learning the ways in which this happens.

Understanding how parental mentalization is affected by symptoms of depression, childhood trauma, and adult attachment and their effect on children's development is valuable information for mental health providers, highlighting the importance of trauma-informed

therapeutic models, especially for professionals that work with the 0 to 5 age population, as there are few studies that focus on the mentalizing development and characteristics of preschoolers that take into account the caregiver's experience of trauma, attachment style, and mentalizing capacities (Sharp et al., 2007).

Theoretical and Empirical Background

The importance of the relationship between a child and his/her caregiver has proven to be more profound than initially thought. Children's general wellbeing and development is rooted in the parent/child relationship and the quality of this relationship has been positively associated to varying positive outcomes, such as socioemotional, cognitive, and neurological development (Shonkoff & Phillips, 2000). This relationship is composed of micro-moments and micro-expressions that are associated to parental sensibility and synchrony, and become essential agents of communication between parent and child. For example, the exchange of glances between parent and child during key moments have a profound effect on both, as it demonstrates that they are part of a contingent relationship where the child's needs are attended to and the parent has the knowledge that she/he can satisfy them. Throughout child development, the parent's capacity to correspond to and validate the child's internal experience underlies the development of a sense of self that increases in complexity with time. The internal resources a parent possesses play a crucial role in the parent/child relationship and can be affected by different factors like, parental stress (Guajardo, Snyder, & Peterson, 2009), discipline methods (Arranz, Artamendi, Olabarrieta, & Martin, 2002; Slade, 2005), and attachment style (Arranz, Artamendi, Olabarrieta, & Martin, 2002; Slade, 2005). As such, the parent's childhood experiences play a significant role in the development of said internal resources that consequently affect, and can even shape, the bond between a parent and their child. The following sections will present what has been empirically and theoretically evidenced regarding the themes and variables observed in this study.

Attachment Theory

Origin of attachment theory, research, and classifications

John Bowlby's attachment theory shaped how we think about one of the most essential human needs: forming affective bonds to others. Attachment theory encompasses the emotional bond human beings establish from infancy onward, beginning with their primary caregivers and later on with their own children, romantic partners, and other people throughout life (Garrido-Rojas, 2006). Bowlby's (1978) theory of attachment and the research carried out in this area has undoubtedly shown that the capacity to form emotionally healthy bonds to others is rooted in early experiences of attachment. Attachment theory proposes that not only are humans born with the universal need to form affectional bonds, but also that this need be reciprocated from early on. In essence, while the infant seeks attachment behaviors (smiling, crying, cooing, etc.), the child's caretaker must also be able to reciprocate these attachment seeking behaviors by smiling back, touching, providing the child with verbal and non-verbal cues, etc. to name a few. Such reciprocity fosters a sense of security in the child, and they develop knowing that their needs will be met and that they have the agency to achieve emotionally reciprocal behaviors in their primary caretakers (Fonagy, Gergely, Jurist, & Target, 2002). On the other hand, a child who is not able to have their emotional and in some cases their physical needs met, learns that they cannot rely on their caretakers to provide them with emotional reciprocity, thus leaving them with a sense of that they are not secure in this world at a most fundamental level.

Attachment bonds are especially important when understanding emotion and affect regulation. We are not inherently born with the capacity to self-regulate and this only develops within the context of a secure dyadic relationship based on contingency, holding, and emotional reciprocity. For example, when a child becomes upset, overly aroused, and stimulated, he/she

will require their caretaker to organize their emotions by returning them to emotional equilibrium by means of holding, feeling understood, and soothing. Bowlby (1983) proposed that repetitive experiences of emotional regulation and experiences with caretakers later become the foundation for internal working models. These internal working models become relationship prototypes and are thought to be the relational origin of a person's capacity to form and maintain relationships (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005).

Attachment was first classified through the work of Mary Ainsworth (1969) when she devised the now infamous "Strange Situation". The Strange Situation is an experimental procedure in which a mother and child (12-18 months old) are observed through a one-way mirror, with special focus on the child's behaviors and reactions to 8 episodes lasting 3 minutes each. Scoring for this procedure takes into account the child's behavior during the two reunion episodes between mother and child, they are: proximity and contact seeking, contact maintaining, avoidance of proximity and contact, and resistance to contact and comforting. The experimenters also take into account other behaviors such as, exploratory behaviors, searching behaviors, and displays of affect (McLeod, 2016). As a result of this experiment, Ainsworth devised a classification system consisting of 3 attachment styles: *secure attachment, insecure-ambivalent attachment, and insecure-avoidant attachment*. *Secure attachment* is characterized by the child expressing distress upon his mother's departure, avoidance of the stranger when left alone with her, friendliness towards the stranger when his mother was present, happiness upon mother's arrival, and displays of exploratory behavior (exploring the toys) with mother as a safe base to explore the environment. Children with *ambivalent attachment* were more likely to show signs of intense distress upon mother's departure, show avoidance and fear towards the stranger, the child approaches mother upon reunion, but resists contact, and cries intensely and explores

less. Finally, the child classified with *avoidant attachment* shows no sign of distress upon mother's departure, shows no fear of the stranger and plays with the stranger, shows little interest in mother upon reunion, and the mother and stranger are able to calm the child down equally well.

These classifications of attachment serve to point out the organization of the attachment system and provides clinicians and researchers with insight into the parent-child relationship. Securely attached children signal their needs and have the knowledge that their parents will be there to satisfy their needs in a predictable, sensitive, and responsive manner (George, 2014). Securely attached children are also prone to sharing joyous moments with their caregivers, and their relationship is characterized by play, curiosity, eye contact, and exploratory behavior (George & Solomon, 2008). On the other hand, an insecure-avoidant relationship between parent and child is characterized by distance in which the child diffuses anxiety and fear using rejecting behaviors (George & Solomon, 2008). This type of attachment style is characterized by a strong separation anxiety in the child, mildly rejecting parenting, and parental tendency to redirect their child's attention during moments when their child expresses attachment-related needs (George, 2014). Finally, the insecure-ambivalent-resistant child is characterized by chronic anxiety and clinginess. A child with this attachment classification oscillates between neediness and rejection, to which the parent contributes with inconsistent and contradictory caregiving, making the relationship between the two very frustrating and confusing (George, 2014). Both types of insecure attachment style are characterized by children who present fewer facial expressions and a distorted exploration of their environment. Secure attachment style, insecure-avoidant, and insecure-ambivalent-resistant are what are known as organized attachment styles and were the original attachment classifications devised by Ainsworth (1969). Later on, Mary Main (1986)

added a new classification, disorganized attachment style, to account for children whose strategies to signal and gain proximity to their attachment figures were found to be "broken down" and fundamentally disorganized. As a result, children with disorganized attachment style present with a sense helplessness and appear overwhelmed by their attachment needs (George & Solomon, 2008). When presented with the Strange Situation, disorganized children appear disoriented, frightened, hostile, and generally conflicted about proximity upon reunion with mother (Main & Solomon, 1990). The parent-child relationship behind this attachment classification is often one ridden with conflict, unpredictability, complex trauma, fear, and dissociative parental and child behaviors (George, 2014).

Adult attachment

Attachment style is not only assessed within the context of the parent-child relationship, it is also assessed in adults through the bonds that they form with other attachment figures, such as romantic partners. As previously noted, attachment theory emphasizes that attachment bonds formed later in life are thought to be rooted in early childhood attachment experiences (Fraley, 2002; Yumbul, Cavusolgu, & Geyimci, 2010).

Adult attachment styles have been researched theoretically conceiving that an individual's adult attachment style is an extension of early developmental experiences. However, longitudinal research has not shown consistent results in regards to the stability of attachment style from infancy to adulthood (Fraley, 2002). However, there have been some studies worth noting that have found empirical evidence of attachment style stability though the life span. For example, in a meta-analysis of existing longitudinal data, Fraley (2002) found that attachment was moderately stable during the first 19 years of life by mathematically testing different models of attachment stability. He concluded that stability of attachment was due to the so-called

"prototype model", which poses that later experiences of attachment are rooted in attachment style prototypes developed early in childhood. In a later study, Fraley et al. (2013) assessed attachment style in one-month old infants up through 15 years-old in 707 participants. Their findings suggested that differences in adult attachment styles had their origin in the participant's early developmental attachment experiences. Fraley's et al. (2013) study is important in that it helped fill a gap existing in attachment research that empirically evidenced what attachment theorists and clinicians had pointed out for 25 years prior. However, Fraley et al. (2013) point out that while there was a relationship, it was not as pronounced as they expected, as only 29% of variance of adult attachment styles was explained by early attachment experiences. They state that while the importance of early childhood experiences is profound, they cannot be solely responsible for adult attachment styles because there are a number of other factors that contribute to adult attachment like ongoing interpersonal experiences, the life-stage they are in at the time of assessment, and environmental context (Frayley et al., 2013). Therefore relationships formed throughout the lifespan can also affect the course a person's attachment bond. In addition to this, Fraley et al. (2013) point out that the quality of caregiving environment during childhood is also subject to change, whether it be due to environmental reasons, socio-economic reasons, or experiences such as trauma.

Adult attachment styles

Adult attachment style encompasses a person's representation of the self and of others (Marganska, Gallagher, & Miranda, 2013) and is rooted in early childhood experiences. Attachment style in adulthood can inform a person's historical pattern of relationships and their capacity to regulate emotions when seeking proximity to attachment figures.

While there continues to exist debate on how adult attachment styles can be assessed, the *Adult Attachment Interview* (AAI) (George, Kaplan, & Main, 1985) continues to be one of the most commonly used instruments of measurement (Marganska, Gallagher, & Miranda, 2013). The AAI scores individuals based on their mental representations of early attachment experiences, resulting in four categories of attachment, *secure/autonomous, insecure/dismissing, insecure/preoccupied,* and *unresolved,* which respectively correspond to the categories laid out by Ainsworth (1978).

In the scientific search for finding increasingly better ways to assess adult attachment styles through different types of instruments, Brennan, Clark, & Shaver (1998) produced a seminal factor-analysis in which they included all self-report measures of adult attachment at the time and identified two stable dimensions of adult attachment labeled *anxiety* and *avoidance.* With such a complex construct to measure, as is adult attachment, there has since been a general consensus that adult attachment generally falls under these two dimensions (Wei, Russle, Mallinckrody, & Vogel, 2007). *Attachment anxiety* is characterized by a fear of abandonment and/or rejection, resulting in an anxious preoccupation with intimate partners, and distress when their partners (or other attachment figures) are not able to respond. Intimate relationships are often characterized by a constant checking in and strong efforts to maintain proximity (Mikulincer & Shaver, 2007). There is often an exaggeration of needs and clingy and controlling behaviors that often lead to excessive intrusiveness, coercion, and aggression that lead to partner dissatisfaction and rejection (Mikulincer & Shaver, 2007). On the other hand, *attachment avoidance* is characterized by fears of dependence and interpersonal intimacy, excessive need for self-reliance, and a reluctance of self-disclosure and nurturing trust (Wei at al., 2007). These individuals have a tendency to deny their attachment needs and seek to control and maximize

psychological distance (Mikulincer & Shaver, 2007). Insecure individuals can score high on one of these and low on the other dimension, for example, *preoccupied adult attachment style* scores high on anxiety and low on avoidance and *dismissing attachment style* scores low on anxiety and high on avoidance. Individuals who score high in both dimensions often fall under a *disorganized attachment style* or a *fearful avoidant attachment style* and these individuals often have a history of complex trauma and come from abusive/neglectful homes (Mikulincer & Shaver, 2007). Individuals who score in either of these dimensions, or score highly on one of them, are classified under insecure attachment style, whereas individuals who score low on both of these dimensions are classified as securely attached (Malinkrodt, 2000, Wei et al., 2007).

The attachment system is based on behavioral strategies known as hyperactivating strategies, in which the goal is to gain proximity to the attachment figure when they are perceived as unavailable or unresponsive (Mikulincer & Shaver, 2007). Anxiously attached individuals often use these strategies when their attachment systems becomes triggered. Hyperactivating strategies are intended to gain affection, but often yield intense and destructive emotions (Mikulincer & Shaver, 2007). Contrarily, when intimacy is perceived as threatening and dangerous, individuals use deactivating strategies, characterized by ignoring and denying attachment needs and avoidance of situations that require intimacy and emotional involvement (Mikulincer & Shaver, 2007).

Attachment and childhood trauma

In line with these findings, it is important to consider an individual's historical factors that could potentially contribute to adult attachment style. In this study, the experience of childhood trauma was considered. There is significant empirical evidence of a relationship between the experience of trauma and infant-attachment styles, yet there are fewer studies that

consider the experience of early childhood trauma and its relationship to adult attachment styles (Ensink, Berthelot, Bernazzani, Normandin, & Fonagy, 2014). In fact, Bakermans-Kranenburg & Ijzendoorn (2009) carried out a meta-analysis and found that only 5 studies had focused on the relationship between childhood history of trauma and adult attachment style and fewer studies included non-clinical populations. A more recent study in this area was carried out by Yumbul, Cavusoglu, & Geyimci (2010) who assessed the relationship between participant's experience of childhood trauma and adult attachment style in 150 participants. Their results showed that as the experience of childhood physical neglect increased, so did the chance of individuals score in the Dismissive/Avoidant attachment classification. Upon dividing adult attachment classification into secure and insecure adult attachment style, their study found securely attached participants reported fewer experiences of trauma during their childhood than their insecurely attached counterparts. Yumbul, Cavusoglu, & Geyimci (2010) point out that their study indicates that childhood trauma can prevent a person from forming healthy relationships, however, they also point out that they did not find a correlation between absence of childhood trauma and secure attachment, indicating the need for future research in this area. In a similar study, Stoval-McClough & Cloitre (2006) compared the adult attachment styles of 30 women with histories of abuse and neglect and found that a decreased history of trauma was associated to higher rates of attachment security. From a theoretical perspective, the relationship between childhood experiences of trauma and adult attachment style is sound, posing childrearing that occurs in the context of childhood maltreatment has the potential to disarm a sense of security in the attachment relationship that has footprints in attachment relationships formed from thereafter (Fonagy, 1999).

Attachment and depression

Early attachment experiences play a significant role in an individual's capacity to regulate intense emotions, particularly during times of distress. When in need of proximity, especially from their attachment figures, individuals who are high on attachment anxiety tend to use strategies such as clinging and controlling behaviors that can indeed drive people away in times of need (Mikulincer et al., 2003). Individuals who score high on attachment avoidance tend to avoid closeness out of fear, and emphasize self-reliance and independence (Mikulincer et al., 2003). On the other hand, individuals who score low on both attachment anxiety and attachment avoidance and are securely attached have been found to have more optimistic beliefs about themselves and their ability to handle stress, they have greater acceptance of the negative parts of themselves, and are more comfortable in seeking the help of others and trust that others will reliably and genuinely be able to respond to their needs (Marganska et al, 2013). Furthermore, securely attached individuals are flexible in how they express their emotions (Sroufe, 2005), show greater social competence and adjustment (Mikuliner et al., 2003), and can moderate their impulses when responding to environmental and social demands (Kobak & Sceery, 1998). In contrast, insecurely attached individuals tend to have lower self-esteem and social competence (Cooper et al., 1998) and report increased loneliness and interpersonal conflict (Wei et al., 2005). These are all factors that are important to the general well-being of a person and can be important risk factors for depression and symptoms of depression. It has been researched that secure attachment is generally associated to psychological wellbeing, whereas insecure attachment has been linked to depression and anxiety at a greater scale (Marganska et al., 2013). Hankin, Kassel, & Abela (2005) found that both avoidant and anxious attachment predicted symptoms of depression at an 8-week and 2-year follow-up. In a study by Marganska et al.

(2013), they found that attachment insecurity was significantly correlated to symptoms of depression and Generalized Anxiety Disorder (GAD). Moreover, they found that fearful avoidant and preoccupied attachment style had the strongest association to both depression and GAD. Their findings were similar to other studies and pointed to the factors that put insecurely attached individuals at risk for these disorders, such as ineffective emotional regulation, propensity to negativity and rumination, absence of positive cognitions, and the tendency to experience high negative affect and low positive affect (Clark & Watson, 1991; Gentzler, Kerns, & Keener, 2010; Marganska et al., 2013).

Attachment and parenting

The attachment relationship begins from infancy and extends into adulthood resulting in relational patterns that have important implications for a person's general wellbeing (George, 2014, Ch. 6, p. 97). As such, these relational patterns can extend to parenting practices and the parent/child relationship. For example, parents that fall under the preoccupied adult attachment orientation seem to react in anger and express anger at a greater rate than securely attached parents and are reported to have more intrusive interactions with their child (Adam, Gunnar, & Tanaka, 2004). Rholes, Simpson, & Blakely (1995) found that adults with avoidant attachment styles responded to their children with less warmth and reported feeling detached from their children emotionally. Parents who were classified as insecure avoidant also reported greater parenting stress and less parental satisfaction (Rholes, Simpson, & Friedman, 2006). In the same line, Rosiman et al. (2007) reported that insecurely attached individuals seemed to engage in anxious/uncollaborative and avoidant/disengaged behaviors with their children at a greater rate than securely attached parents. Theoretically speaking, caregivers who fall under insecure attachment styles are prone to feeling overwhelmed by their child's need for proximity,

becoming rejecting and attributing negative connotations to their child's behaviors (Lieberman & Horn, 2011). As such, to form a secure attachment parent/child relationship, the parent must have the capacity to hold, regulate, and experience their child's emotions without becoming overwhelmed or shutting down (Slade, 2008). In his seminal work on attachment, Bowlby (1973) postulated that attachment security is passed down intergenerationally, but the mechanisms through which this happened were unclear. In the exploration to understand how attachment styles were passed from one generation to the next, the concept of mentalization was put forward as a factor of extreme importance in fostering secure attachment styles. The following section will review the concept of mentalization, or reflective functioning, and describe its relationship to attachment and trauma.

Mentalization

Definition and overview of mentalization or reflective function

The concept of mentalization is born out of attachment theory through the work of Fonagy, Steele, Moran, Steele, & Higgitt (1991). Defined broadly, mentalization refers to the capacity to understand the mental states of one's self and others, understanding that behaviors are influenced by intentional mental states such as, desires, intentions, beliefs, emotions, thoughts, goals, purposes, etc. However, mentalization is a multifaceted construct, integrating different aspects of the ability to "think about thinking" (Fonagy, 2015, NAPA presentation). Among these different aspects is curiosity, having awareness of the impact that affects can have on others, understanding that the mind of others is opaque and nuanced, the ability to take the perspective of others, and the capacity to trust (Fonagy, 2015). As such, one of the most important roles mentalization plays is helping us anticipate, interpret, understand, and affect the behavior of those around us (Bateman & Fonagy, 2013; Fonagy et al., 1991; Target & Fonagy,

1996; Fonagy, 1998; Sharp & Fonagy, 2008). Fonagy, Gergely, Jurist, & Target (2002) state that mentalization is essentially "human" in that humans strive to understand ourselves and the mechanisms that propel our behavior by making the effort to understand our own minds, as well as others. In this line, "making sense" of mental states and behaviors has proven to be crucial to social functioning and the development of interpersonal relationships (Bateman & Fonagy, 2013).

Identifying and giving meaning to internal states is also said to be intricately associated to the organization of the self and to the regulation of affect (Fonagy et al., 2002; Slade, 2005). Attributing meaning to internal mental states through meta-cognitions allows humans to think and reflect about how they feel, while at the same time becoming emotionally engaged in their thoughts. As Target (2003 as cited in Slade, 2005) states, it is the ability to "think about feeling" and "feel about thinking". When this ability is somehow compromised, a person can become overwhelmed by their own mental states (thoughts, desires, emotions, etc.) and thus shut down, foregoing the capacity to experience rich and complex dynamics inherent to internal and interpersonal dynamics (Slade, 2005). As Fonagy et al. (2002) make clear, affect regulation works at different levels. On one level, it serves a physiological purpose as it allows us to return to homeostasis when necessary for survival (Fonagy et al., 2002) on another level, it serves to regulate and craft our affects in relation to others so that we can adequately communicate specific affects. This leads Fonagy et al. (2002) to propose that affect regulation is a form of self-regulation in that it brings the existence of the self to the forefront because, "the object of regulation is the self" (Fonagy et al., 2002, pg. 95), thus underlying the organization of the self and its affects. As a result, the ability to mentalize has been positively associated to affect regulation and organization of the self, leading to increased capacity to cognitively regulate

affects and tolerate negative thoughts and feelings, underlying mechanisms that lead to more successful and healthy interpersonal relationships (Allen et al., 2008). Were it not for this capacity, we would respond to behaviors, rather than the complex feelings that underlie them, as we have observed in people suffering from personality disorders, such as borderline personality disorder, characterized by the inability to hold and regulate emotions and mentalize affects appropriately (Slade, 2005).

Mentalization and reflective functioning are terms often used interchangeably, specifically, reflective functioning refers to the operationalization of the underlying mechanisms of the capacity to mentalize (Fonagy et al., 2002). Reflective functioning (RF) specifically assesses a person's capacity to understand behavior as meaningfully connected to underlying mental states, more specifically embedded in the context of an attachment narrative (Allen, et al., 2008; Slade, 2005). Individuals scoring high levels of RF show a greater capacity to reflect on their emotions and others, and show a better understanding of how emotions, thoughts, and behaviors are associated (Fonagy et al., 1998). Furthermore, scoring higher RF indicates greater metacognitive abilities, that is to say that the individual is successfully and meaningfully able to think about their thoughts and feelings (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). The assessment of RF is intricately linked to attachment styles and coded as such; for example, Jesse et al. (2016) point out that identifying or describing mental states is not enough to indicate high levels of RF, rather, they have found that individuals coded with a preoccupied attachment style show the ability to describe mental states, in fact their discourse regarding mental states is excessive, analytical, and over intellectualized, but lack meaningful connections between emotions and behaviors. Therefore, high scores in RF account not only for the ability to describe mental states, but to also create thoughtful, meaningful links between mental states and conduct

(Fonagy et al., 1998; Jessee et al, 2016). The connection between mental states and behavior in the assessment of RF is important because though there are similar constructs in existence like mind-mindedness (Meins, 1997), metacognitive mirroring (Main, 1991), self-reflection, insight, and insight introspection (Oppenheim & Koren-Karie, 2002), to name a few, none emphasize this link as strongly (Fonagy et al., 2002).

Development of mentalization

The development of mentalization marks the beginning of the development of self, more specifically the agentive self (Fonagy et al., 2002). According to Fonagy et al. (2002), the development of self-agency is typically acquired in the first five years of life through the progressive understanding and maturity of five levels self-agency: physical, social, teleological, intentional, and representational. As a physical agent, the infant's initial self-organization is based on body related experiences. As a social agent, self-organization is based on the social exchanges that take place from infancy onward in which the infant begins to understand his/her capacity to induce behavioral and emotional reactions in his/her caregivers. Between sixteen and eighteen months of age the self is understood as a teleological agent, referring to understanding that alternative actions can be chosen to achieve a particular goal, followed by the internalization of the self as an intentional agent where it becomes apparent that actions are caused by intentional mental states. Finally, at three or four years old, the self is understood as a representational agent, where there is an understanding that actions are caused by intentional mental states which are representational and symbolic in nature (Fonagy et al., 2002). During the first four years of child development, children have two modes through which they experience internal and external reality, the earliest building blocks of mentalization. Firstly, children experience "psychic equivalence" in which there is virtually no distinction between the internal

world and the external world, resulting in distressing projections of fantasy to the outside world (Fonagy et al., 2002). It is contingent upon their caregiver's responses to expose children to repeated experiences of appropriate affect-mirroring and emotional regulation in a loving and safe context so that the child understands that his/her feelings cannot spill into the outside world, producing a so-called "decoupling" of mental states and physical reality (Fonagy et al., 2002). Ideally, a child will move from the psychic equivalence mode to the pretend mode, in which the child acquires the capacity use objects as symbolic representations and understands that internal experience doesn't necessarily reflect external reality. However, during the pretend mode the child lacks the understanding that internal states affect the outside world, lacking the developmental maturity to understand the relationship between internal states and external reality. Mentalization, or the reflective mode, is acquired when both the psychic equivalence mode and the pretend mode are integrated and the developmental process gives way to understanding that mental states represent reality, but are not equated to it (Fonagy et al., 2002). The complex developmental process by which mentalization is acquired begins from early infancy onward and is largely dependent on the environmental context in which it takes place.

Mentalization/reflective function and attachment

As previously noted, the concept of mentalization and reflective functioning were developed within the context of attachment theory. The development of mentalization is born out of dyadic relationships to primary attachment figures and is based on the caregiver's capacity to provide the infant/child with the contingency, reciprocity, empathy, and emotional containment necessary (Fonagy et al., 2002). As a result, the child's internal and external world is reflected in ways that ultimately organize his/her emotional states. Mentalization is marked by behaviors such as *mirroring* (a high-order representation of the child's experience) (Fonagy et al., 2002)

and *marked contingency* (a symbolic representation of the child's experience, rather than a literal, and overwhelming exact reflection of the child's emotional state) (Fonagy et al., 2002). Theoretically, the attachment system becomes triggered through these types of interactions between a caregiver and their child; this relationship has been evidenced empirically, for example, Slade et al. (2005) found that mothers who had a secure attachment orientation seemed to understand the intentions and feelings of their children and their behaviors and thus were able to respond accordingly, especially understanding when and why their children sought comfort and closeness at a much higher rate than mothers who had insecure attachment orientation. On the other hand, caregivers who have an insecure attachment orientation can become overwhelmed by their child's emotions and they respond as such, undermining the child's ability to process information about his own emotions and eventually others (Fonagy et al, 2002). Essentially, Fonagy et al. (2002) proposes that the attachment relationship signals the quality of mentalization that occurs.

It has been argued that the capacity to mentalize is one of the mechanisms through which attachment style is passed on inter-generationally, facilitating parental sensibility toward their child, thus promoting secure attachment (Van Izjendoorn, 1995). Though associations between both constructs have been found, the exact manner in which they affect each other is still unknown. However, it has been evidenced that RF has a protective role, for example, Arnot & Meins (2007) found that insecure mothers with high RF are more likely to have securely attached children than mothers with the same attachment insecure attachment style and low RF (Arnot & Meins, 2007).

Failure to mentalize, or low reflective functioning, has been associated to several adverse outcomes. In the worst of cases, failures in mentalization have been linked to psychopathology,

specifically Borderline Personality Disorder (BPD). Failure to mentalize refers to a compromised ability to process and interpret information regarding mental states, thus affecting the success and manner in which the individual relates to the social world (Fonagy, 2002). These types of failures can lead to developmentally inappropriate and distorted experience of emotions, interpreting behavior in terms of physical processes rather than cognitive or emotional processes, in addition to lacking adaptability in interpersonal relationships in terms of communication styles, thus failing to adapt to evolving dynamics in relationships to others (Bateman & Fonagy, 2016). Mentalizing failures and unsuccessful interpersonal relationships have also been associated to a fragmented sense of self, On the other hand, individuals with high mentalization have shown greater capacity to be attuned to the emotions of others, facilitating and promoting healthier interpersonal relationships, social competence, and a more integrated, healthier sense of self (Allen., Fonagy, & Bateman, 2008).

Parental Reflective Function

Definition and overview

Bateman & Fonagy (2012) propose that mentalization is a developmental construct born out of the attachment relationship. As such, there are several characteristics of a child/parent relationship that can promote the development of adequate and healthy mentalizing; these characteristics are known as parental reflective functioning (PRF). PRF refers to the capacity a parent has to reflect on their own mental states and their child's while also meaningfully connecting their own behavior and their child's to mental states (Fonagy et al., 2002). In addition to this, PRF also includes the parent's (or caretaker's) ability to reflect upon their own mental states and how they will affect their child (Slade, 2008). In broader terms, it is the parent's capacity to hold the inner life of the child (Slade, 2005). Though this construct refers to a

caregiver's or a primary attachment figure's capacity (mother, father, relative, etc.), this study looks specifically at maternal parental reflective functioning and will refer specifically to a mother's relationship to the child and will use the "her" pronoun hereafter to refer to a mother's PRF capacity. This important capacity has been correlated to various developmental outcomes and its absence has the potential of forcing the child to adapt pathologically, resulting in adverse outcomes as serious as the development of psychopathology, specifically in terms of personality disorders like Borderline Personality Disorder (Slade, 2005). Fonagy et al. (2002) posits that all human beings are born with the capacity to mentalize, however, it is the parent-child relationship that enables its development. A child's capacity to discover and interpret his own intentions, desires, and feelings is contingent upon his parent's capacity to understand him as an independent psychological agent and not as an extension of the parent's own unresolved experiences (Fonagy et al., 2002; Kelland et al., 2016; Slade, 2005). As a result, the parent is able to provide the child with attuned interactions, specifically through affect-mirroring. Affect-mirroring refers to the mother's capacity to represent her child's feelings through facial and vocal expressions in a way that sooths the child instead of overwhelming him (Fonagy et al., 2002). Through adequate affect-mirroring, the child learns to tolerate feelings of frustration or distress and slowly learns to not become inundated by these feelings, the very building blocks of affect-regulation and self-organization. Furthermore, the child learns to organize his primitive affects in order to then be able to recognize them, integrate them, and express them to others (Fonagy, Gergely, Jurist, & Target, 2002; Guajardo, Snyderb, & Peterson, 2009; Slade, 2005). On the other hand, the inability to provide congruent affect-mirroring has the potential to distort the identification of certain mental states, rendering them confusing, unsymbolized, and difficult to control (Fonagy et al., 2002). An important aspect of parental affect-mirroring is "marked-

mirroring" or "marked contingency", referring to a characteristic of affect-mirroring in which the parent reflects the child's affective states in an exaggerated way that communicates that these are not the parent's feelings, rather a symbolic representation of the child's affective states (Fonagy et al., 2002; Slade, 2005). This is important because parent's who reflect back the child's affect without the element of "marked-mirroring" can cause the child to perceive his affects as contagious and dangerous and only intensify his level of arousal when experiencing negative affects (Fonagy et al., 2002). Ideally, through appropriate marked-mirroring, the child becomes sensitized to his own mental states, leading to a mentalized experience of emotions and affect regulation. It's also important to note that these contingent, marked-mirroring maternal behaviors should be developmentally appropriate, beginning with vocal and facial expressions and later on using vocabulary referring to mental states and finally ending in symbolic play. As a result, PRF has been correlated to increased security of attachment in children, greater social abilities and success in interpersonal relationships, and a greater use of symbolic play (Fonagy, 2008).

Mothers who have high PRF engage in different types of mentalizing behaviors, for example, mothers with high PRF seem to be genuinely curious about their child's mental states and thus, engage their children in a way that expresses this curiosity (Slade, 2005). Additionally, highly reflective mothers understand their children's mental states to be nuanced, not black and white, and make an effort to convey that they *want* to understand their child's mental states, especially during times of dysregulation and distress (Bottos & Nilsen, 2014; Slade, 2005). Furthermore, mothers with high PRF engage in "mental state talk", referring to the use of mind-related comment that allude to the child's state of mind, giving them the vocabulary to name certain affects (Rosenblum, McDonough, Sameroff, & Muzik, 2008).

PRF has been proven to be a significant predictor of attachment security (Fonagy et al., 2002; Meins et al., 1997, 2002; Sharp & Fonagy, 2008) and has been linked to several other positive outcomes for children, like socio-cognitive development (Sharp & Fonagy, 2008), decreased physiological reaction to stress, increased self-regulatory capacities, increased capacity to concentrate, better academic performance, and better quality of social interactions to peers (Gottman et al., 1996). PRF has also shown to be a protective factor that promotes resiliency and reduces the chances of developing symptoms of depression and post-traumatic stress in traumatic contexts and in women experiencing depression and anxiety (Allen & Fonagy, 2006). While adequate PRF can be beneficial in child development and in maternal satisfaction, failures in PRF have shown to be associated to several different maternal psychiatric and psychological problems (Toth, Rogosch, & Cicchetti, 2008), maternal experience of substance abuse (Pajulo et al., 2012), and fewer socio-economic resources (Pajulo, Helenius, & Mayes, 2006). Decreased PRF has also shown to be associated to poorer quality of parent-child relationship, less parental satisfaction, decreased maternal involvement and communication, compromised limit setting capacity, and finally, inability to provide the child with age-appropriate independence and autonomy (Rostad & Whitaker, 2016). One last important note is that the quality of PRF and its effects depend very much on context; highly reflective parents are not reflective all the time, rather, adequate PRF is also characterized by rupture and repair, and disequilibrium is a normal part of the parent-child relationship, the most important aspect of this relationship is the ability to "repair" moments where high intensity affects took over the mother's capacity to be reflective (Slade, Grienberger, Bernbach, Levy, & Locker, 2005).

Parental reflective functioning and attachment

It is important to note the significant links observed between PRF and attachment. As mentioned previously research has evidenced an association between reflective functioning capacities and adult attachment style, namely that increased reflective functioning has been associated to patterns of secure attachment and these have been associated to increased parental capacity to respond predictably and with sensitivity to the needs of their children (Fonagy, Steele, & Steele, 1991; van Ijzendoorn, 1995). In fact, Fonagy (2008) states that appropriate parental mentalizing fosters secure attachment and is integral in the development of the child's mentalizing capacities. On the other hand, adults reporting decreased reflective capacities tend to present patterns of insecure attachment styles, less PRF, and their children present with patterns of attachment insecurity as well (Fonagy, Steele, & Steele, 1991, Fonagy et al., 2002; Slade, 2005). The idea is that the manner in which an adult relates to her child is rooted in internal working models that are developed during their childhood with their primary attachment figures (Rostad & Whitaker, 2016). Mothers with insecure attachment styles often present overwhelm in the face of the children's needs and find it difficult to calm and regulate their children in times of distress (Slade, 2005). Conversely, mothers presenting secure attachment style show greater capacity to organize and regulate their emotions before responding to their children's needs, leading to more sensitive caregiving responses when their child is in distress and dysregulated (Slade, 2005).

Interestingly, the relationship between PRF and insecure attachment is more complex and nuanced depending on the type of insecure attachment style. For example, in a study of 40 mother-infant dyads assessing attachment style and parental reflective functioning, Slade, Grienberger, Bernbach, Levy, & Locker (2005) found that securely attached mothers showed

higher PRF than organized insecure mothers in general, but when assessing for differences among insecurely attached mothers, their results indicated that disorganized insecure mothers showed the lowest levels of PRF amongst all participants with insecure attachment style. Slade et al. (2005) theorize that these differences between organized insecure attachment style and disorganized insecure attachment style in terms of PRF have to do with the "quality and organization" of the internal working models at the root of the mother's interpersonal functioning; that is to say that a disorganized and disconnected perception of childhood experiences have a significant effect on the mother's attachment style, PRF, and her child's attachment style (Slade et al., 2005). In the same line, Beebe et al. (2010) found that mothers with disorganized attachment style did not present global PRF failures, rather PRF failures were restricted to situations in which their children manifested anxiety, responding positively and then being surprised at the reaction this caused in their infants. This type of response is thought to be an attempt to negate their child's distress and anxiety, a defense mechanism rooted in the mother's early childhood experiences triggered by her child's distress. In general, it has been observed that securely attached adults tend to have an integrated and coherent narrative of their early childhood experiences, whereas adults with insecure attachment styles, especially disorganized-insecure, tend to have narratives of their childhood that are incoherent, disorganized, and not integrated, distorting their capacity to mentalize regarding the past, present, and future (Main et al., 1985).

Parental reflective functioning and experiences of childhood trauma

Among the contributing factors that have the potential to affect parental reflective functioning capacity is parent's experience of early childhood trauma. Childhood experience of trauma refers to maltreatment during an extended period of time (emotional abuse, physical

abuse, sexual abuse, verbal abuse, or negligence) or the experience of being exposed to violent behavior, like domestic violence (Lawsom, Davis, & Brandon, 2013). The experience of childhood maltreatment has been associated to a myriad of adverse outcomes, among them are: depression, anxiety, eating disorders, somatization and personality disorders (de Marco, 2000; Florenzano, 2001), medical disorders like irritable bowel syndrome, severe migraines, and gynecological symptoms (Leserman, 1996; Walker & Kato, 1993). The severity of mental disorders (e.g. symptoms of depression) are exacerbated in people who have early experiences of trauma (Ballesteros, Virtiol, Florenzano, Vacarezza, & Calderon, 2007). Young children and adolescents are more prone to experiences of trauma and as a result, individuals who experience early childhood trauma are up to three times more likely to suffer serious symptoms of depression or dysthymia than those without experiences of childhood trauma (Widom, DuMont, & Czaja, 2007; Blalock, Minnix, Mathew, Wetter, McCullogh Jr., & Cinciripini, 2013), thus it is easy to see that younger children and adolescents are more vulnerable to traumatic experiences that have profound impact on their development as they transition into adulthood.

Particularly detrimental to development is the experience of trauma where the perpetrator is a primary attachment figure. In this context development is characterized by a feeling of insecurity with repercussions that extend to different aspects of childhood psychological development and are later manifested in adulthood (van der Kolk & Curtois, 2005; Lieberman & Van Horn, 2008; Lieberman, Silverman, & Pawl, 2005). Traumatic experiences at the hands of primary caregivers have been particularly associated to self-destructive and self-harming behaviors, social withdrawal, aggression, and increased severity of depressive symptoms (Curtois & Ford, 2013; Laswom, Davis, & Brandon, 2013). This speaks directly to the complexity of an attachment relationship developed in the context of trauma where the caregiver

is the traumatizer. Van der Kolk (1987) refers to this experience as possibly one of the most psychologically complex and detrimental experiences an individual can go through because from a very early age, the child loses his secure base, thus deeply compromising his sense of safety in the world. A child who perceives his caregiver to be dangerous or threatening can be deeply affected in terms of attachment style, the development of an integrated self, and can lead to a profound sense of distrust in interpersonal relationships (Courtois & Ford, 2013; Harris, Lieberman, & Marans, 2007; McWilliams & Bailey, 2010; Ballesteros, Vitriol, Florenzano, Vacarezza, & Calderon, 2007). A child whose development takes place in the context of trauma, perceives the world to be unpredictable, threatening, and, in some circumstances, dangerous, thus developing mechanisms that help him survive in this context (Slade, 2016). These "survival mechanisms" are often in line with the innate instinct children have to protect their relationship to their primary caregivers, as Porges (2013) states, "the child is biologically programmed to detect threats to the relationship and to his safety, this is the key to survival". As such, from a very early age, children growing up in this context learn that their caregivers cannot satisfy their needs and are likely to repress their needs, deny them, or not express them at all (Slade, 2016). When fear and insecurity are part of the daily life of a child, danger becomes internalized and ultimately contradicts the innate tendency of children to seek closeness, form bonds, and feel safe (Lierberman, Gosh Ippen, & Van Horn, 2015). In Chile, the high rates of interfamilial violence, child abuse, and child sexual abuse have been well documented (Larrain, Vega, & Delgado, 1997), but there have been few studies describing or correlating early traumatic experiences with psychopathology during adolescence and adulthood and the effect they have on parenting (Silva, 2002; Trucco, 2002).

The effects of childhood trauma on parenting have been widely observed clinically and empirically. The complexities associated to parenthood have been found to trigger feelings and emotions connected to early experiences of trauma (Lieberman, Gosh Ippen, & Van Horn, 2015). While there are many types of traumatic experiences, it has been reported that interfamilial trauma often goes underreported, especially when it comes to emotional abuse and negligence (Bottos & Nilsen, 2014; Ford & Courtois, 2009). Early childhood trauma can dramatically alter pre-established notions of what safety and danger looks and feels like, resulting in the perception of benign stimuli in the mother/child relationship as dangerous and threatening, thus triggering posttraumatic stress behaviors. Research has shown that individuals raised in households characterized by maltreatment are raised in a context that is unpredictable, emotionally labile, and erratic, making it difficult to evaluate the antecedents and consequences of behaviors, which is essential in the development of understanding emotions and PRF (Bottos & Nilsen, 2014; Fonagy, Gergely, Jurist, & Target, 2002; Rogosch, Cicchetti, Shields, & Toth, 1995). This kind of context is also predominated by fear, affecting, and potentially compromising, the reflective expression of feelings and emotions (Fonagy, Gergely, Jurist, & Target, 2002). Fonagy, Gergely, Jurist, & Target (2002) hypothesize that individuals with the experience of early childhood abuse are sometimes unable to contemplate the mental states of their abusers, leading them to sacrifice their own reflective capacities as a defense mechanism. A child who is only seen in light of their parent's projections internalizes the parent's aggression, what Fraiberg (1981) describes as "identifying with the aggressor". On the other hand, abusive parents whose minds are perceived to be too terrifying by their child, the child's inner world becomes empty and unknowable (Slade, 2005). In addition, abusive parents often convey messages that can negate the internal experience of children (Cloitre, Cohen, & Koenen, 2006), consequently, adult survivors of

childhood traumatic experiences can have difficulties in subsequent relationships, including the relationship to their child. As a result, we find that these parents are found to make less references regarding mental states, show confusion, discomfort, and distrust towards their own sensorial perceptions, show greater difficulties identifying, differentiating, and expressing their affective states, show decreased affect regulation, and less trust in those around them (Cloitre, Cohen, & Koenan, 2006).

It has been theorized that mother's exposed to early experiences of trauma suffered breakdown in mentalizing capacities from early on, thus affecting their parental reflective capacities (Slade, 2005). Berthalot et al. (2015) point out that mothers with the experience of early childhood trauma fail to mentalize during times when trauma-related memories are triggered, namely when their child is in distress. They point out that in these instances, these parents might show difficulties modulating fear and aggression and either withdraw from the child or respond incongruently, failing to hold and contain the child's emotional experience. In addition, mothers exposed to early experiences of trauma are found to show less curiosity about the mental states that underlie their children's behaviors and tend to make erroneous and often negative attributions explaining why their child behaves a certain way (Gara, Allen, Herzog, & Wolfholk, 2000). Furthermore, their marked mirroring behaviors towards their children can be distorted in two ways, firstly, their marked mirroring might be too real, making the child feel as though his affects are contagious and dangerous (Slade, 2005). Secondly, the mother might withdraw completely from her child's cries of distress, misinterpreting the child's cry as manipulative and coercive (Slade, 2005). Failures in PRF are not only apparent during infancy, but are also observed in other developmental stages, Slade (2005) points out that failures in PRF

compromises parental talk and play which are crucial to development as the child develops through toddlerhood and on throughout preschool period.

Childhood experiences of trauma have been linked to different psychological afflictions and psychopathology. In terms of PRF, psychopathology has been thought to underlie failures in PRF, resulting from pathological adaptations emerging from the need to survive adverse experiences early in childhood (Slade, 2005). Fonagy et al. (2002) propose that pathological mentalizing adaptations arise from distorted attachment relationships in which there is a profoundly lasting inability to contain arousal, disrupting the boundaries between the inner world and the external world. As such, research has shown that one of the most common sequelae of childhood traumatic experiences is depression (Bottos & Nilsen, 2014). The following section will present our understanding of depression in Chile and how it is associated to parental reflective functioning.

Depression, childhood experience of trauma, and parental reflective functioning

As one of the most prevalent diseases worldwide, depression has become a serious problem for developing countries, as well as industrialized countries. As of 2010 depression has become the second cause for disability in the world and it is anticipated that it will become the primary burden of disease by the year 2030 (Murray et al., 2002; Ferrari, Somerville, Bazter, Norman, Patten, & Whiteford, 2013; WHO, 2002). Research has indicated that there are significant differences in prevalence rates between men and women; in Chile, women are two to three times more likely than men to experience symptoms of depression according to the Chilean AUGE Clinical Guide of 2013. The gender differences in prevalence rates of depression are widened in developing countries, that is to say that women, particularly women belonging to low-socioeconomic groups, are especially at risk of developing symptoms of depression (Block

Joy & Hudes, 2010; Rojas et al., 2007). Though some of the differences in prevalence rates between men and women can be accounted for by data collection methods and a greater tendency to self-report symptoms of depression in women compared to men, women throughout the world are more vulnerable to experiences that contribute to depression, like unwanted sexual experiences or sexual abuse, domestic and environmental violence, and disadvantaged social and financial status (Gaviria, 2009).

A large majority of women suffering symptoms of depression do not receive treatment, as a result, symptoms of depression and their severity tend to become normalized in communities lacking access to diagnosis and treatment (Smits & Huits, 2015). Symptoms of depression include low self-esteem, relational conflicts, economic instability, hopelessness, fatigue, emotional lability, and suicidal ideation, to name a few (Block Joy & Hudes, 2010). Empirical research has extensively documented the effects that maternal depression has on child development, as such, parental symptoms of depression have been found to generate disturbances in the parent/child relationship that have been linked to insecure attachment patterns (Cicchetti, Rosgosch, & Toth, 1998; Atkinson, Paglia, Coolbear, Niccols, Parker, & Guger, 2000). Disturbances to the parent/child relationship in the presence of symptoms of depression are thought to be the result of failures in mentalization, specifically in terms of PRF (Toth, Rogosch, & Cicchetti, 2008), as the symptoms of depression inherently affect the ability to be reflective (Lovejoy et al., 2000). Mothers with symptoms of depression show greater distancing from their children, are less responsive, less active and exhibit more rejecting behaviors in relation to their child (Lovejoy et al., 2000). Symptoms of depression like fatigue, irritability, and social withdrawal are thought to compromise the mother's ability to engage her child in a way that adequately reflects the child's internal states, consequently, research has found that as

the severity in symptoms of depression increases, mothers experiencing these symptoms tend to have lower PRF (Rosenblum et al., 2008), show less curiosity towards their child, make fewer attempts to understand their child's mental states, and engage in less mental state talk than their non-depressed counterparts (Pawlby et al., 2010). Depressed mothers also tend to withdraw in times when their children show signs of distress (Rosenblum, McDonough, Sameroff, & Muzik, 2008) or show difficulty gauging how much to stimulate their children, often resulting in excessive, overstimulating behavior or providing little or no stimuli at all (DiGuseppe, Linscott, & Jilton, 1996). Finally, depressed and abusive mothers show a tendency to misinterpret their children's behaviors and thoughts (Dix, 1991). Though it is not yet understood if depression causes failures in mentalization or the other way around, empirical evidence has pointed to their coexistence (Fonagy et al., 2002). In addition to this relationship, Bottos & Nilsen (2014) have pointed out that the high rights of childhood traumatic experiences in women experiencing symptoms of depression makes the relationship between childhood trauma, symptoms of depression, and PRF unclear, as research is still needed to illuminate which of these variables underlie failures in mentalizing capacities.

Depression and the experience of early childhood trauma often coexist, in fact, depression is the most common sequela of traumatic experiences (Wright, Crawford, and Del Castillo, 2009). Research has found that symptoms of depression are often triggered by the transition to parenthood, especially in women who have been exposed to traumatic events (Fenney, Alexander, Noller, & Holaus, 2003). While a strictly causal relationship has not yet been found and we continue to learn more about resiliency factors, it has been established that parental symptoms of depression and parental early experience of childhood trauma in conjunction have the most profound effects on PRF capacities (Bottos & Nilsen, 2014).

Mentalizing distortions have been found to characterize mother/child dyads as a result of maternal overwhelm and the undermentalized thinking that characterizes depressogenic cognitive schemas (Bateman & Fonagy, 2016). Mothers who experience symptoms of depression have been found to have relationships to their children that are characterized by hostility, ambivalence, irritability, less positive behaviors, and more intrusive behaviors towards their children (Lyon Ruth, Wolfe, & Lyubchik, 2000). As a result, children of depressed mothers have not only been found to show greater impairments socially, academically, and behaviorally but have also shown important mentalization impairments (Lyons Ruth, Wolfe, & Lyubchik, 2000). For example, children of depressed mothers have been found to have less tolerance and more aversive behavior to sad affects in their peers (Cirillo, 1998), delayed emotional understanding (Hughes & Ensor, 2009), and delayed theory of mind performance in preschoolers (Rohrer et al., 2011).

Theory of mind

Definition and overview

Thus far we have summarized the extensive literature regarding how important parental mentalizing capacities are and how they are affected by depressive symptomology and the experience of childhood trauma, all within the context of attachment theory. The following section will cover one of the hallmarks of early childhood development, theory of mind, and look at the existing literature on how theory of mind is developed, tested, and affected by parental reflective functioning.

Theory of mind (ToM) is a construct referring to the capacity to see oneself and others in terms of mental states, with the intent of predicting consequential behaviors (Fonagy et al., 2002). ToM is a developmental milestone, reached around 3 to 5 years old, that is essential to the

development and success of social competencies from very early on, eventually leading to more complex mentalization in which the child comes to understand that affective states guide behaviors in himself and in others (Laranjo, Bernier, Meins, & Carlson, 2010). While there is a general consensus that ToM generally emerges from 3 to 5 years old, there is some research indicating that rudimentary aspects of ToM take place between 1 and 6 years old (Cohen & Cashon, 2006; Hughes & Leekam, 2004). Researchers indicate that pointing, gaze alteration, and social referencing are rudimentary ToM abilities in children, leading to more complex mentalizing capabilities later on (Fonagy et al., 2002). Researchers have observed that towards the end of the first year of life, children display behaviors conveying their ability to understand objects as intentional agents, whose behaviors are goal-directed and predictable (Fonagy et al., 2002; Tomasello, 1995). In light of research pointing to early manifestations of mentalizing capacities, a mature development of ToM is generally reached during the preschool period (by 4 years old) (Fonagy et al., 2002). As such, much of the research on how and when ToM develops has focused on preschool children (Wellman, Cross, & Watson, 2001). ToM has primarily been researched in children using false-belief tasks (Wellman, Cross, & Watson, 2001). False-belief refers to one aspect of ToM in which it is understood that while mental states reflect reality, they are internal and can diverge from real-world events, that is to say that a person can have a "false-belief" about external reality (Fonagy et al., 2002; Laranjo, Bernier, Meins, & Carlson, 2010; Wellman, Cross, & Watson, 2001). When a child comes to appreciate that people can have false-beliefs (beliefs about the world that contradict reality), they show that they are able to appreciate the difference between what is in the mind versus what is externally true. This aspect of ToM has been classically measured using Wimmer & Perner's (1983) false-belief task in which a child is presented with the following scenario: A boy named Maxi puts a chocolate in the kitchen

cupboard, then leaves the room to play. While he is out of the room, his mother comes in and moves the chocolate from the cupboard and puts it in a drawer. The child is then asked where Maxi will look for his chocolate, in the cupboard or in the drawer. There many variations of this false-belief task, but the scenario is the same, the child is privy to information and is asked how someone who does not have the same information will behave. The idea is that children of a certain age are able to appreciate that subjects not privy to the same information will behave based on their own beliefs, even though they are not congruent with reality (Fonagy, 2015; Wellman, Cross, & Watson, 2001).

False-belief task performance has been associated to various aspects of development in children. For example, in a meta-analysis that considered 104 studies and over 9,000 children, Millington, Astington, & Dack (2007) found a significant relationship between children's performance in false-belief tasks and language ability independent of age. They found an overall correlation that was moderate to large in strength (r=.43) and even when accounting for variance attributed to age, they found that language abilities accounted for 10% of the variance of false-belief task performance. Overall, 18% of the variance of false-belief task performance was accounted for by language abilities and early language abilities highly predicted later performance on false-belief tasks (Millington, Astington, & Dack, 2007). Interestingly, research has indicated that children who are bilingual have better false-belief understanding and perform better in false-belief tasks. For example, Kovács (2007) found in a sample of 32 bilingual Romanian-Hungarian children and 32 monolingual Romanian children that the bilingual children were twice as likely to pass false-belief tasks. The idea is that bilingual children often encounter situations in which there are conflicting mental representations, forcing them to resolve these conflicts by switching languages and thus, giving them experience resolving ToM conflicts and

consolidating their ToM capabilities at an earlier time than their monolingual counterparts (Kovács, 2007). Findings like Kovács' (2007) on bilingualism and ToM development are similar to findings by other researchers focusing on bilingual/monolingual contexts (Berguno & Bowler, 2010; Goetz, 2003). In addition to the relationship between false-belief understanding and language development, ToM has been associated to other developmental outcomes as well. It has also been established that increased ToM capacities in children has been associated to better academic performance, more social competencies and greater popularity among their peers (Cooper, Vasi, & Vick, 2009; Slaughter, Dennis, & Pritchard, 2002). Preschool is a time in which a child's mentalizing capacities and social competencies are put to test, in which children are presented with new social situations and their success at navigating these new situations is determined by their understanding of mental states. Children who possess greater ToM abilities are likely to promote social circumstances from which they will grow and continue to mature in terms of their social competencies (Fonagy, 2015). On the other hand, children who show impaired or delayed ToM, have been observed to show difficulties understanding the antecedents and consequences of behaviors, leading to misunderstandings and frustrations in their interpersonal relationships (Soderstrom & Skarderud, 2009). Additionally, children with decreased ToM often appear confused by internal stimuli, show general misunderstandings of social clues, and are less liked and accepted than their counterparts in their social circles (Capage & Watson, 2010; De Rosnay, Harris, & Pons, 2008; Fonagy, Gergely, & Target, 2007; Kobác et al, 2008; Rogosch, Ciccetti, Shields, & Toth, 1999).

Theory of Mind and attachment

The development of children's understanding of mental states is embedded in their social world, as such, their early relational experiences affect their subsequent ToM development

(Fonagy et al., 2002). In this line, the effect of attachment style on children's development of ToM has been an important area of research, however, studies focused on this relationship have found differing results (Hughes & Leekam, 2004; Otai & Thompson, 2008). Some studies have found that secure attachment style significantly predicts preschooler's success at false-belief and belief-reasoning tasks in comparison to insecurely attached preschoolers (Fonagy, 1997; Meins, 1998) and that in a secure attachment relationship the caregiver provides the child with constant, predictable, and organized mental state representations which are later used to understand other people's mental states (Ontai & Thompson, 2008). By contrast, other studies have failed to find a significant relationship between attachment style and ToM (Otai & Thompson, 2008; Meins et al., 2002), however, Repacholi and Trapolini (2004) propose that failure to find a relationship between the two is the result of ToM tasks that lack "attachment relevance". Laranjo, Bernier, Meins, & Carlson (2010) state that this theory is evidenced by Klagsbrun & Bowlby's (1976) findings in which preschoolers classified with an insecure-avoidant attachment style were less likely to understand their mother's false-beliefs than an unknown female's false-beliefs. Despite the need to refine ToM tasks (for example, making them relevant to an attachment context) studies have found that secure attachment styles between children and their caregivers lead to behaviors that contribute to ToM development, though the exact nature of the relationship between these variables is still an important area of research (Carpendale & Lewis, 2004).

The influence of parental factors on Theory of Mind

In addition to the relationship between ToM and attachment style, there are other relational aspects that contribute to the development of ToM, one of them being parental discourse. Parental discourse is often assessed in different situations like disciplinary discourse, the kind talk used in play, and the discourse used in times of dysregulation (Ruffman, Slade, &

Crowe, 2002). One aspect of parental discourse that has been associated to children's theory of mind is mental state talk, referring to conversational references to mental states made by a parent to their child. Mental state talk is also referred to "mind-minded comments" which is defined as comments that 'reflect mental state awareness and appropriate verbal mental-state attributions' (Rosenblum, McDonough, Sameroff, & Muzik, pg. 364, 2008). In a study by Ruffman, Slade, & Crowe (2002) in which they presented parents and children with pictures and then scored the amount of mental state utterances made by both parents and children, they found that children's whose parents made greater mental state references also made more references to mental states and scored higher on ToM tasks. Their findings are consistent with other studies that have also found that the frequency of mental state talk predicts children's performance in false-belief tasks (Brown et al., 1996) and an earlier understanding of internal states (Thompson, 2006). Ontai & Thompson (2008) additionally found that not only does mental state talk in the parent-child relationship significantly contribute to ToM development in children, but specifically, elaborative discourse was found have a higher predictive value on ToM development than mental state talk. Elaborative discourse is characterized by open-ended questions and statements that allow children to expand on information, giving them the space to express their own emerging theories of mind and provoking them to consider alternate points of view (Ontai & Thompson, 2008).

The manner in which some parents engage their children's emotional experience in general has also been implicated in their children's emotional understanding and ToM (Castro, Halberstadt, Lozada, & Craig, 2015). While some parents engage their children in exploring and expressing emotions, viewing them as an opportunity to create more intimacy, others perceive emotions as scary, dangerous, and problematic and tend to minimize or deny their children's

emotions and their expression of feelings (Gottman, 1996). As such, parent's ability to perceive, tolerate, and talk about their children's emotional experience has been found to significantly predict ToM development and capabilities in preschoolers (Meins et al., 2003). As an important part of PRF, parental emotion-related beliefs and parental discourse are affected by parental experience of trauma and depression. For example, depressed mothers have been found to be more likely to elaborate on expressions of sadness in role-playing exercises and to unnecessarily attribute sadness to their children's emotions, contributing to exaggerated feelings of guilt in their children (Lyons-Ruth et al., 2002). This is in line with previous research that parents experiencing some form of depression and who have had the experience of early childhood trauma are potentially compromised in their ability to treat their children as independent, psychological agents (Sharp & Fonagy, 2008). In keeping with these findings, Bottos & Nilsen (2014) found that mothers with the experience of depression and childhood trauma were even more likely to interpret their child's behaviors without making reference to the mental states (e.g., emotions) that underlie them. As a result, they also found that maternal experience of depression or childhood maltreatment significantly affected their offspring's mentalizing abilities, and that their child's ToM was significantly compromised when their mother experienced both depression and childhood trauma.

Theory of Mind and environmental context

Finally, it is important to highlight the impact of sociocultural context on the development of ToM. The role of culture has specifically been an area of interest in regards to the development of ToM. Findings have been mixed in terms of the age of onset of ToM and children's overall ToM capacities during childhood, while cross-cultural comparisons have yielded mixed findings, Callaghan et al. (2005) state that they might be the result of varying

methods used in different cultures, specifically in terms of false-belief tasks adapted to the particular cultural context being studied. In their study, Callaghan et al. (2005) assessed ToM development across 5 different cultures (Canada, India, Peru, Samoa, and Thailand) using a standardized procedure, with the exception of language, and found that not only was the onset of ToM around the preschool years (from ages 3 to 5). On the other hand, in a study of more than 300 children in Samoa, Mayer & Traüble (2013) found that their participants under the age of 8 could not pass the false-belief test and that one-third of 10-13 year old could still not pass the same test in a culture where it is considered improper to talk about mental states (Fonagy, 2015). This leads to the consensus that there is still research needed to understand how socio-cultural factors impact ToM development and what parts of development are biological versus experiential (Callaghan et al., 2005).

Socioemotional development

Definition and overview

Socio-emotional development refers to a fundamental aspect of child development that incorporates the expression and regulation of emotions and the ability to form healthy, successful interpersonal relationships (Cohen et al., 2005). It is a broad concept in that it integrates how children relate to their environment, how they function inter-personally and intra-personally, and how they implement their social competencies (Bohlin & Hagekull, 2009). Socio-emotional development is affected by temperament, personality traits, and social context. Common descriptions of problematic development in this area include behaviors related to internalizing and externalizing problems (Achenback & Edelbrock, 1978). Examples of internalization behaviors refer to anxiety, depression, fearfulness, eating and sleeping disturbances, and psychosomatic complaints, whereas externalizing behaviors refer to aggression, hostility,

hyperactivity, and overall concentration problems (Achenback & Edelbrock, 1978; Bohlin &Hagekull, 2009).

One of the key aspects of socio-emotional development is ToM because it is intricately related to social cognition and social competence, which primarily flourishes during preschool years. The importance of understanding other's emotional states plays a significant role in forming relationships and navigating the social world being that emotional experiences are anchored in social relationships (Capage & Watson, 2001; Guajardo et al., 2009). As such, children who have greater ToM, also show increased social competencies and socio-emotional development and are generally more liked by their peers (Cassidy, Werner, Rourke, Zubernis, & Balaraman, 2003), demonstrate more intentional behaviors (e.g. expressing differences between their own and other's wishes) (Lalonde & Chandler, 1995), possess greater social skills (Watson et al., 1999), and are more likely to find ways of solving social problems without relying on aggression (Capage & Watson, 2001). Children rated low on ToM skills and emotional competence show greater difficulties in terms of behavior management, are less liked/accepted among peers and teachers, are more likely to be socially withdrawn, and have varying types of academic difficulties (Guajardo et al., 2009). Interestingly, bullies are shown to have high ToM, as manipulating others requires understanding the thoughts and emotions being manipulated, demonstrating that while ToM is a developmental milestone, it is not always linked to desirable behavior and should be considered within the context of overall socio-emotional development (Guajardo et al., 2009; Sutton, Reeves, & Keogh, 2000).

An important aspect to this area of development is emotional regulation. There seems to be a lack of consensus in terms of the definition of emotional regulation (Cole, Martin, & Dennis, 2004), however, from the perspective of developmentally appropriate emotional

regulation during preschool, emotional regulation can be defined as a child's ability to "modulate behavior according to the cognitive, emotional, and social demands of a particular situation" (Posner & Rothbart, 2000 in Calkins & Fox, 2002, pg. 449). Development through preschool requires a child to master self-regulating behaviors, through which the child incrementally gains independence, control, and a growing sense of identity (Calkins & Fox, 2002). Un-regulated arousal states can interfere with self-care, socializing abilities, and readiness to learn (Lieberman & Van Horn, 2008). This crucial part of development is largely dependent on the caregiver's ability to be aware of their child's emotional states, to be able to adapt to their child's emotional states correspondingly, and to be responsive during times of dysregulation (Calkins & Fox, 2002). Sensitive caregiving and co-regulation exposes children to the experience of a wide range of internal and external stimuli without feeling threatened, overwhelmed, or uncontained. Through the parent-child relationship, co-regulation strategies become internalized and evolve into more sophisticated, self-initiated self-regulating behaviors (Posner & Rothbart, 2000). Emotional regulation has been linked to prosocial behaviors, in fact, Blair (2000) found that children with higher emotional regulation tend to bond with children who also poses self-regulating skills, whereas children who showed deficits in emotional regulation were less likely to practice their limited skills with these children. In this line, studies have evidenced that emotional regulation is related to lower cortisol levels during times of stress in preschoolers (Nachmias, 1996), more positive anger management skills (Gilliom et al., 2002), and greater stress-coping mechanisms (Contreras et al., 2000). Furthermore, emotional regulation development during preschool has been found to significantly predict more prosocial behaviors and less negative behaviors (e.g. aggression) in middle childhood and adolescence (Contreras et al., 2000).

ToM and emotional regulation are constructs that have been theoretically linked (Fonagy et al., 2002). Specifically, it has been proposed that emotional regulation includes understanding of the mind, acceptance of emotions, the ability to tolerate intense emotions (especially negative emotions), and finally, the capacity to adapt and respond flexibly when confronted with intense emotions (Gratz & Roemer, 2004). It has been theorized that emotional regulation deficits may be at the root of mentalizing problems (Fonagy et al., 2002). Fonagy et al. (2002) propose that the capacity to regulate affect and emotions plays a fundamental role in the development of the self and of self-agency. They also propose that with more mature forms of emotional regulation, development leads to the capacity to "mentalize affects", meaning that the individual is able to derive meaning from their own emotions (Fonagy et al., 2002). As such, empirical links have been found between the two constructs, for example, Carlson & Moses (2001) studied the relationship between inhibitory control, which has been implicated in self-regulation, and ToM in 107 preschool children. Their study found that performance in inhibitory control tasks significantly predicted ToM performance, suggesting that inhibitory control tasks requiring delayed gratification and affect regulation might be an enabling factor underlying ToM. In a similar study, Jahromi & Stifter (2008) observed the relationship between self-regulatory abilities and false-belief task performance in 86 preschool children and found that cognitive executive function measures of self-regulation significantly predicted false-belief task performance.

Socioemotional development and attachment

In terms of attachment theory, it has been proposed that sensitive-caregiving and responsive parenting is significantly related to secure attachment and greater emotional regulation skills in children (Waters et al., 2010). Securely attached parent-child relationships

foster emotional self-regulation through different types of parental behaviors, specifically in moments of stress and dysregulation. For example, securely attached parents tend appraise their children's feelings through comments that are insightful and accurate and are more prone to provide the child with alternative strategies to regulate intense emotional arousal (Waters et al., 2010). Surely attached parent-child relationships are also related to a more balanced repertoire of emotions, both in terms of positive and negative emotions, signaling that secure attachment fosters the expression of a wide range of emotions in a contained and safe manner (Consedine & Magai, 2003). Fostering this type of relationship to emotions is characteristic of secure attachment and is related to emotional expression and regulation (Garrido-Rojas, 2006). Sroufe (2000) points out that children with secure attachment are more likely to express their emotions in a clear and direct manner, express curiosity about different affects and a desire to explore them, tend to stay grounded when confronted with situations of intense affect, and make clear efforts to manage and contain their affects in situations of intense emotionality.

Depression in Chile

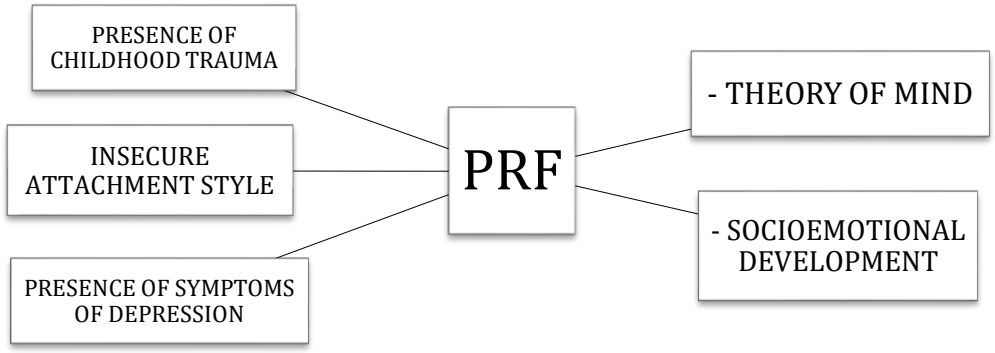
The effects of depression on different aspects of the variables considered for this study have been addressed throughout the previous sections. However, it is also important to note the prevalence of depression in Chile. In Chile, unipolar depression is the second cause of disability-adjusted-life-year (DALY) on a national scale and the first cause of DALY for women who are between the ages of 20 and 44 years old (MINSAL, 2013). The national census in Chile of 2011 (using data from the years 2009-2010) found that for people over the age of 15, the prevalence of depression was 17.2% and 25.7% men and women, respectively. The 2013 MINSAL guide on depression in Chile also found that lower educational attainment, social and economic disadvantage were related to higher rates of depression. In terms of parenting and depression,

there is no specific data, though, in terms of perinatal depression Fornter, Pekow, Dole, Markenson, & Chasen-Tabe (2011) report that between 5-13% of women report experiencing depression. However, Jadresic, Nguyen, & Hallbreich (2007) found that up to 30% of women reported non-specific symptoms of depression during pregnancy. In light of these figures, it is an important variable to consider, especially in terms of the effects that a parent experiencing symptoms of depression can have on their child, especially when compounded by other factors, whether they be co-morbid disorders or environmental factors.

Conceptual Framework

The variables considered in this study have been found to be inter-related and they are all important to consider when forming a comprehensive picture of mental health concerning the dyadic relationship between mother and child. Previous sections of this manuscript have reviewed the potentially detrimental effects that the experience of childhood trauma has on several aspects of development and the potential effects that this experience can have throughout adulthood, in terms of symptoms of depression and adult attachment style, and into parenthood, in terms of the potential effects on children of mothers who have experienced said trauma. Few studies have addressed the impact that trauma can have on adult attachment organization, and fewer have addressed this relationship in a non-clinical population (Stovall-McClough & Cloitre, 2006). Studies that have addressed this relationship have included psychiatric populations and/or other clinical populations that have shown an over-representation of unresolved attachment styles, making it difficult to understand the etiological nature of the relationship between adult attachment style and exposure to trauma in childhood (Stovall-McClough & Cloitre, 2006). Additionally, there are few studies that differentiate the effects that different types

of maternal experience of trauma have on their child's mentalizing capacities, or on other aspects of child development, such as socioemotional development (Bottos & Nielson, 2013). Therefore this study seeks to explore the relationship that maternal experience of trauma has to adult attachment style and to child outcomes. Lastly, one of this study's hypothesis concerns parental reflective functioning as a mediator between the mother's participating in the study who report experience of trauma during their childhood, insecure attachment style, and symptoms of depression in relation to their child's Theory of Mind development and socioemotional development. Parental reflective function will be considered as a mediator as it has been found to be a factor of resilience for mothers who have experienced child abuse and/or neglect and the transmission of disturbed attachment patterns (Allen, 2013; Berthalot, Ensink, & Normandin, 2013).



Objectives

General Objective

The general objective of this study is to describe and analyze the relationship between maternal symptoms of depression, the experience of childhood trauma, adult attachment style, and parental reflective functioning with the socio-emotional development and Theory of Mind development in preschool age children.

Specific Objectives

1. To describe and analyze the relationship between maternal childhood experience of trauma, symptoms of depression, parental reflective functioning and adult attachment style.
2. To describe and analyze the relationship between socio-emotional developmental risk and Theory of Mind in preschool children.
3. To analyze the possible differences between different types of maternal experiences of childhood trauma and describe their relationship to attachment style, maternal symptoms of depression, parental reflective functioning, socio-emotional developmental risk, and Theory of Mind in preschool children.
4. To analyze the mediator role that parental reflective functioning has in relation to maternal symptoms of depression, experience of childhood trauma, maternal attachment style, and Theory of Mind development, and socio-emotional developmental risk in preschool children.

Hypothesis

General Hypothesis

It is hypothesized that maternal symptoms of depression, experience of childhood trauma, insecure adult attachment style, and prementalization levels will be related to increased

socio-emotional developmental risk and decreased Theory of Mind in preschool children.

Specific Hypotheses

1. Greater maternal experience of childhood trauma will be associated to greater symptoms of maternal depression and greater prementalization, and greater insecurity of attachment.
2. Greater socio-emotional developmental risk will be associated to decreased Theory of Mind in preschool children.
3. It is hypothesized that there will be differences regarding the effect that the different types of trauma assessed have on the other variables considered.
4. It is hypothesized that prementalization will mediate the relationship that maternal symptoms of depression, maternal experience of childhood trauma, and maternal attachment style has to the their child's development of Theory of Mind and socio-emotional capacities.

Method

Study Design

This study used a quantitative method, both in terms of data analysis and data collection. The study design is correlational, descriptive, and non-experimental, as such, it's principal objective was to analyze the relationship between maternal symptoms of depression, experience of childhood trauma, parental reflective functioning, and the socio-emotional development and theory of mind of preschool children. The study will only use a single, cross-sectional assessment.

Participants

The participants of this study correspond to secondary data from the FONDECYT PROJECT 1130786, who were given a battery of assessment during the years 2014-2015 who attend daycares belonging to JUNJI. Parents of children between 3 to 5 years old were invited to

participate, 125 mother-child dyads were considered for this study. The JUNJI preschools are government-funded Chilean preschools serving medium- to low-income communities. Though the FONDECYT project included all caregivers responsible for the well-being of the participating children, this study only included mothers.

Procedure

Contact was initially established with education centers belonging to JUNJI, presenting them with the FONDECYT PROJECT 1130786 and inviting them to participate. Consent forms specifying the nature of the research project were signed by the directors, after which parents were asked to participate in the study. Parents signed informed consent letters detailing that their participation was voluntary, that they had the right to withdraw their participation at any time, that their information was private and would only be used for research and didactic purposes.

After procuring consent forms, parents were asked to complete a socio-demographic questionnaire, as well as a battery of assessment. Children were evaluated after receiving parental consent forms as well. All the procedures carried out by this research project have the approval of the Ethics Committee of the Ponteficia Universidad Católica, Chile. The evaluations were carried out by trained evaluators and assessment took place in the educational centers. During these visits, the evaluator went over the protocol of the program and the battery of assessment and caregivers were given the opportunity to address any questions or concerns.

Mothers under the age of 18 and experiencing severe psychopathology were excluded from this study. An initial battery of assessment was administered and parents were offered the opportunity to participate in an intervention group with the objective of enhancing maternal mentalization. The data for this study comes from the participant's first evaluation, before being exposed to the intervention provided.

Measures

Childhood trauma. Childhood experiences of trauma were measured using the Childhood Trauma Questionnaire-Shor Form. This instrument was developed by Bernstein & Fink (1998) and was translated to Spanish in Chile. It's consists of 28 statements that retrospectively evaluate experiences of trauma that occurred before the age of 18. The respondent is asked to rate each item using a Likert scale ranging from 1 (never true) to 5 (very often true). The CTQ-SF evaluates 5 different types of trauma: sexual abuse, physical abuse, emotional abuse, physical negligence, and emotional negligence. Three validity items were included in this scale to assess for minimization and denial in order to detect experience of trauma that were not reported, as this is a scale the respondent answers in retrospect (Bernstein & Fink, 1998). The measure provides a total score and scores for each subscale. Scores attained on each of the subscales indicate mild, moderate, and severe experiences of abuse. Studies regarding adequate cutoff scores in Chile have used DiLilo (2006) and Heim et al. (2006) , and uses a cutoff score of 8 to indicate physical abuse, physical negligence, and sexual abuse, a cutoff score of 10 indicating emotional abuse, and a cutoff score of 15 indicating emotional negligence. The CTQ-SF has excellent test-retest reliability with a Cronbach's alpha of .57 to .93 depending on each scale: physical abuse (α=.80 a .92), emotional abuse (α=.76 a .93), sexual abuse (α=.88 a .97) , physical negligence (α=.57 a .80), and emotional negligence (α=.68 a .93) (Locke & Newcomb, 2008; Minnes et al., 2008). Finally, this scale shows high levels of internal consistency α=.80-.97 and convergent validity using structured interviews with respect to the experience of childhood trauma and evaluations completed by psychotherapists (Bernstein et al., 1994).

Symptoms of depression. Symptoms of depression were measured using the Beck Depression Inventory (BDI) This instrument was designed by Beck, Ward, Mendelson, Mock, & Erbaugh (1961) and was translated to Spanish by Vásquez & Sanz (1999). It consists of a self-report questionnaire that evaluate with 21 items in which the respondent choses one of four statements that best describes their mood in the last week. The alternatives increase in severity, each scoring between 0 to 3 points, obtaining a total score of 0 to 63 points. A higher score in the instrument indicate greater symptoms of depression. Symptoms of depression are categorized into four levels, they are: absence of symptoms were minimum symptoms (scoring 1 to 9 points), mild to moderate symptoms of depression (scoring 10 to 18 points), moderate to severe depression (scoring 19 to 29 points), and severe depression (scoring 30 to 63 points). While the cut off score for this study is 10 points, cut off scores for the BDI have shown to be variable depending on the sample being researched and the purposes for which the measure is being used. Finally, this instrument has a statistical reliability of α =.90 (Vasquez & Sanz, 1999).

Adult attachment style. Adult attachment style was measured using the *Experiences in Close Relationships scale* (ECR) developed by Brennan, Clark, & Shaver, 1998). It was developed with the intent to measure the individual's attachment style in the context of romantic partnership. This instrument allows us to measure adult attachment on a continuum focusing on two dimensions: avoidance (inconformity with intimacy and dependency) and anxiety (fear of separation and abandonment). It is composed of 36 items, measured on a Likert scale with a possible score from 1 to 7 (1= completely disagree and 7=completely agree). Scores indicate 4 types of attachment styles: Secure (low avoidance, low anxiety), Preoccupied (low avoidance, high anxiety), disengaged (high avoidance, low anxiety), and

fearful (high avoidance, high anxiety). Both dimensions have confidence indictors of .94 and .91 via Cronbach's Alpha. Chilean studies using this measure show a reliability of .87 for avoidance and .85 for anxiety (Rivera, 2006). This study used the version of the ECR validated in Chile in 2012 by Spencer, Guzman, Fresno, & Ramos which consists of 12 items and has an adequate reliability (Alpha's Secure=0.64 / Alpha's unsecure=0.78).

Parental reflective functioning. To measure this construct, the *Parental Reflective Functioning Questionnaire* (PRFQ-1) was used. This instrument was developed by Luyten et al. (2009) and is intended to measure caregiver's capacity to understand their child and their behaviors in terms of mental states. This instrument was translated from English to Spanish in Mexico and an inter-judge verification took place in Chile. This is a self-report questionnaire specifically made for caregivers of children who are under 5 years old that consists of 39 items that use a Likert scale from 1 (Strongly agree) to 7 (Strongly disagree). The PRFQ-1 has 3 subscales, each intended to measure different aspects parental mentalizing, Firstly, the Pre-mentalizing modes subscale (PM) in which higher scores indicate that the parent has a difficult time accurately interpreting their child's mental states and their experience. The second subscale is the Certainty of Mental States subscale (CM) which measures the extent to which parent's understand that their children's mental states are at times difficult to decipher, for example, one of the items belonging to this subscale is "I can always predict what my child will do", capturing that parents are not excepted to *always* know what their children's mental states are. Finally, the Interest and Curiosity in Mental States subscale (IC) measures how interested a parent is in thinking about the child's internal states and their curiosity regarding the child's perspective.

Santelices, Olhaberry, Zapata, & Valdez (2017, *in process)* tested the PRFQ's psychometric qualities in a Chilean population in light of the few studies published testing the instrument's statistical reliability. Their sample was composed of 254 caregivers (208 mothers, 34 fathers, 10 grandparents, and 2 uncles/aunts), their children all under the age of five, belonging to a medium- to low-income segment of the population. They found that the statistical reliability of the total score of the instrument was low, with a Cronbach's alpha of 0,59. Essentially, it is possible to work with these scales independently, and in this study, the pre-mentalization scale was used to assess one aspect of parental reflective functioning.

Theory of mind. In order to measure children's Theory of Mind capacities, this study used the *Evaluation of Theory of Mind* (ETM), which was created in the FONDECYT 1100721project by Farkas, Santelices, & Decaret (2012). This task lasts approximately 15 minutes and is composed of 4 first order false-belief tasks that are intended to measure the development of Theory of Mind in preschool children who are 3 to 5 years old. The 4 tasks are conformed by 14 statements with a maximum score of 34 points. The instrument was adapted for a Chilean context based on tasks that have been designed and evaluated by other authors. The standardization of the instrument was carried out in a low-income segment of the population. The ETM presents adequate psychometric properties with an internal consistency of 0.8 and an inter-rater reliability of 0.90.

Socio-emotional development. Socio-emotional development was evaluated using the ASQ-SE developed by Squires, Bricker, & Twombly (2002). This measurement consists of a 30 item self-report questionnaire intended to be completed by the parents or primary caregivers of children between 1 and 72 months old, different versions exist for different ages/developmental stages. This measure evaluated development in regards to self-regulation,

communication, adherence, adaptive functioning, autonomy, affect, and social interaction. It is was designed to rule out emotional and social difficulties, a high score indicates greater risk that the child is presenting with socio-emotional difficulties and a lower score indicates greater development in this area. The ASQ-SE has a statistical reliability of .94 and validity of .75.

Demographic information. The sociodemographic questionnaire consists of four sections: the first section is composed by questions regarding the child's history, for example the child's age, when he started preschool, how many hours he is in daycare daily, etc. The second section asked about the child's caregiver's family history like their age, marital status, etc. the third section refers to family history that is relevant to the child's life like how many people live in the home, who takes care of the child when parents are not home, how many hours the children spend without his parents, etc. Finally, the fourth section asks about relevant information that was not discussed in the three previous sections.

Data analysis

For the statistical analysis of this research paper, R Version 3.5.1 was used for all statistical data analysis, using the statistical computing program named, Iavaan (Roseel, 2012). Missing values for this data was found not to be significant according to Little's MCAR Chi-square statistic $\chi 2(290) = 28932$, $p = 1.0$, indicating that missing values occurred randomly. The following variables showed missing scores: BDI (0 missing), PRFQ-PM scale (0 missing), CTQ-SF (0 missing), ETM (9 missing), and ASQ-SE (2 missing). With the purpose of describing the relationship between maternal variables assessed with the child variables assessed, a correlational analysis was conducted through the use of multiple regressions in order to understand the predictive value that the independent variables of this study (maternal experience of trauma, symptoms of depression, adult attachment style, and parental reflective

functioning)had to the dependent variables of this study (socioemotional development and theory of mind). In order to present a model that highlights the relationship between these variables through a more complex model, a path analysis was completed in order to observe the direct and indirect effects of the study's variables.

Additional analysis

In line with the variables addressed in this research study, a paper was submitted to and published in *Frontiers* in 2017 that addressed the impact that maternal experience of trauma had on adult attachment style and on parental reflective functioning. This article was titled, *Manifestation of trauma: a closer look at different types of traumatic experience, adult attachment, and their effects on parental reflective functioning* and can be found in the appendices of this paper. The results of this paper will be discussed in the discussion, but similar results were found in both this manuscript and in the article. The main findings of this article included the relationship between insecure attachment style, parental reflective functioning, and trauma experienced during childhood. Insecure attachment seemed to significantly worsen parental reflective functioning when the parent had experienced physical negligence.

Results

Descriptive analysis.

The sample used for this study was composed of 125 mother/child dyads. The women who participated were between the ages of 19 and 47 years old (mean=29.69, SD-6.55). The majority of them completed high school and some form of junior college/trade school (44,4%), followed by partial completion of university (21,8%), high school and incomplete junior college (15,2%), and completion of middle school only (6,5%) (See Table 1). Of the children who participated in the study, 50,4% (n=62) were female and 49,6% (n=61) were male, their ages ranging from 36 to 54 month old (mean= 44.65, SD=3.74). The socio-economic level of the sample is medium- to low- income, the majority of the participants work (57,6%), while 27,2% are homemakers, and 12,8% study and work (See Table 1).

Table 1. Sociodemographic characteristics

	%	N
Education		
Incomplete schooling	25.0%	31
Completed schooling	44.3%	55
Incomplete higher education	21.7%	27
Complete higher education	7.2%	9
No response	1.6%	2
Sex of child		
Female	50.4%	62
Male	49.6%	61
Occupational status		
Stay at home	27.2%	34
Full time employment	57.6%	72
Employed and studies	12.8%	16
No response	2.4%	3

Table 2 presents the descriptive data of the variables that are of primary interest to this study.

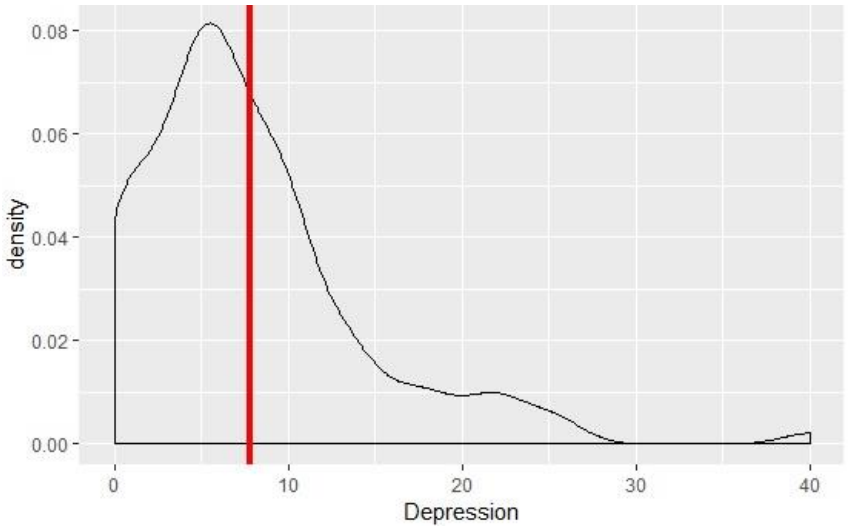
Table 2. Descriptive data of study's variables

	n	mean	sd	min	max
Depression	125	7.78	6.57	0	40
Anxiety	125	3.08	1.57	1	6.67
Avoidance	125	3.19	1.57	1	7
Prementalization	125	2.52	1.22	1	6.50
Childhood Trauma	125	39.81	14.36	25	94
Theory of Mind	116	9.38	5.31	0	28
Socio-emotional difficulties	123	55.85	30.11	0	165

Adult descriptive results

In relation to symptoms of depression through the *Beck Depression Inventory* (BDI), Figure 1 shows the distribution of this variable, showing that the majority of the scores are concentrated on the lower levels of symptomology. In effect, 58% of mothers in this study scored under the distribution median and only 12% scored over the standard deviation of the distribution median. Using the cutoff scores aforementioned, 69.6% of mothers (n=89) had an absence of symptoms, 22.4% (n=28) presented mild symptoms, 7.2% (n=9) presented moderate symptoms, and only one case (0.8%) presented with severe symptoms.

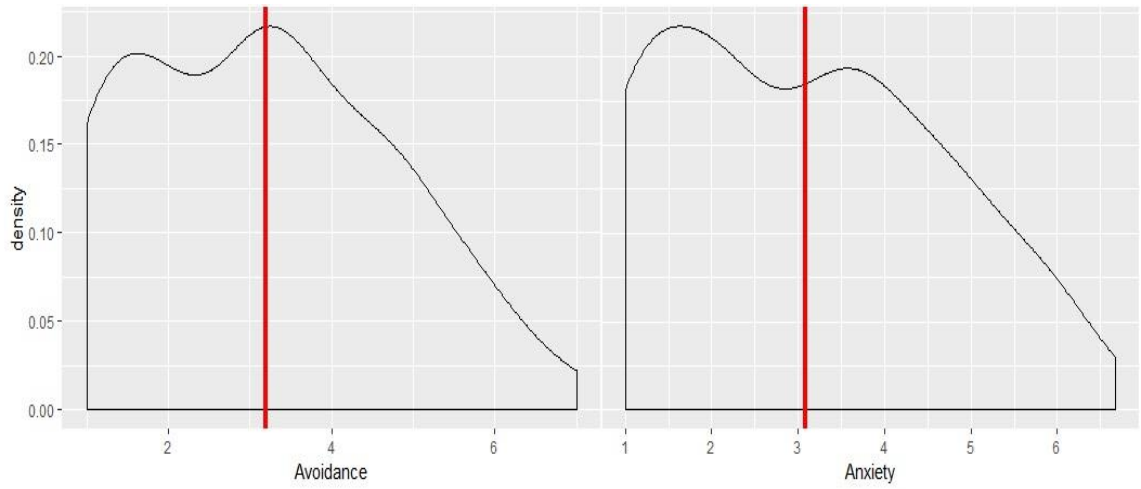
Figure 1. Depression scores for mothers.



*Note: Red line presents the median distribution.

In relation to anxiety and avoidance measured through the *Experiences in Close Relationships* (ECR), mothers participating in this study presented with scores concentrated in the middle of the distribution, reflecting a homogenous distribution, with a higher number of lower scores. In effect, 53% of the mothers participating in this study scored below the median score in anxiety and avoidance. However, it is also possible to observe that there were a significant number of mothers that scored highly in avoidance and anxiety; mothers that were one standard deviation over the median represent 22% for avoidance and 17% for anxiety.

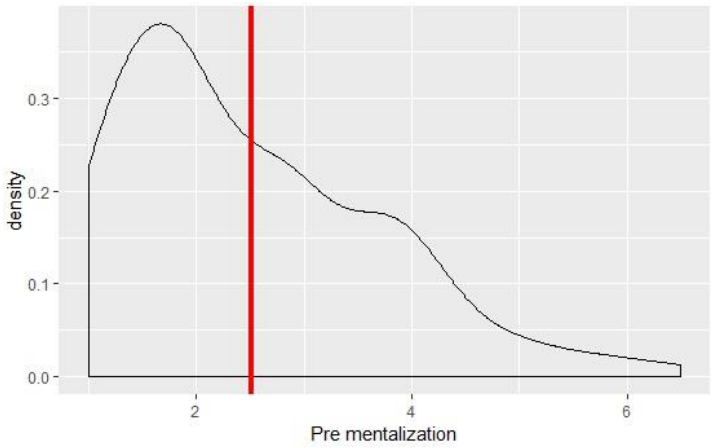
Figure 2. Scores for Avoidance and Anxiety.



Note: The red line presents the average distribution.

With respect to pre-mentalization, measured by the *Parental Reflective Functioning Questionnaire* (PRFQ-1), Figure 3 shows that the majority of mothers show low scores in this variable. In effect, 58% of mothers in the study score below the median scores of the distribution and 16% fall one standard deviation above the average score of the distribution.

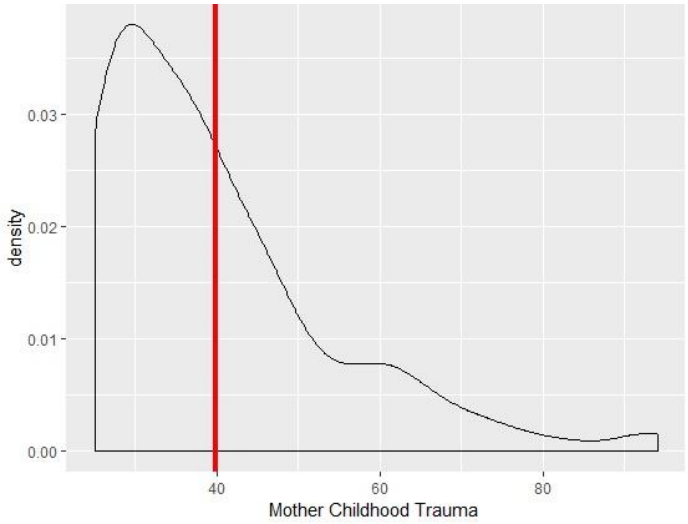
Figure 3. Distribution of pre-mentalization



Note: The red line presents the distribution average.

Figure 4 shows the distribution of the scores obtained through the *Childhood Trauma Questionnaire* (CTQ-SF). Here we observe that in general, the majority of mothers present low trauma scores, with 64% of mothers falling under the median of the distribution. However, 16% of mothers are one standard deviation above the median of the distribution.

Figure 4. Score distribution of childhood trauma



As mentioned previously, the cutoff scores were used to determine the frequency with which trauma was present during childhood in each of the five dimensions measured by this instrument. In this study, the cutoff scores used were those set by DiLilo (2006) and Heim et al. (2006) Table 3 shows the proportion of mothers that report childhood trauma.

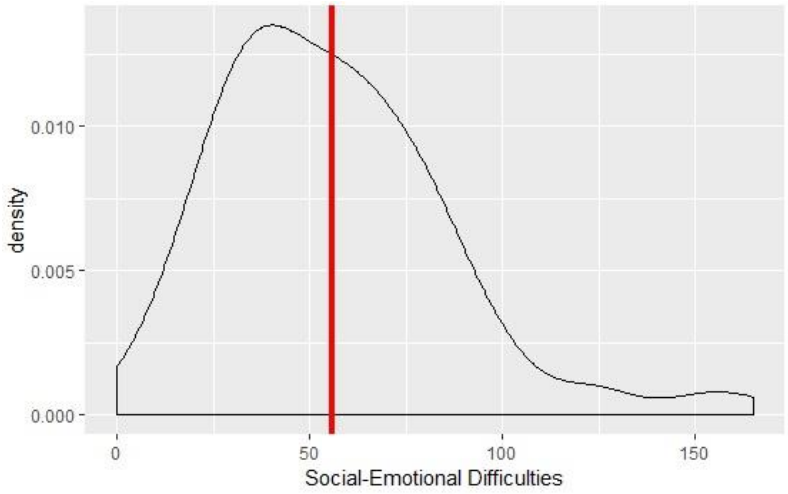
Table 3. Presence and absence of maternal experience of childhood trauma

	%	N
Abuso físico		
Ausencia	71.2%	89
Presencia	28.8%	36
Abuso sexual		
Ausencia	72.8%	91
Presencia	27.2%	34
Abuso emocional		
Ausencia	59.2%	74
Presencia	40.8%	51
Negligencia física		
Ausencia	81.6%	102
Presencia	18.4%	23
Negligencia emocional		
Ausencia	85.6%	107
Presencia	14.4	18

These results show that at a global level, the absence of childhood trauma dominates the scores, although this varies depending on the dimension of trauma being assessed. Emotional negligence appears to be the dimension that was least reported (85.2% of mothers do not present trauma according to this instrument), while emotional abuse represents the dimension with the most cases of trauma.

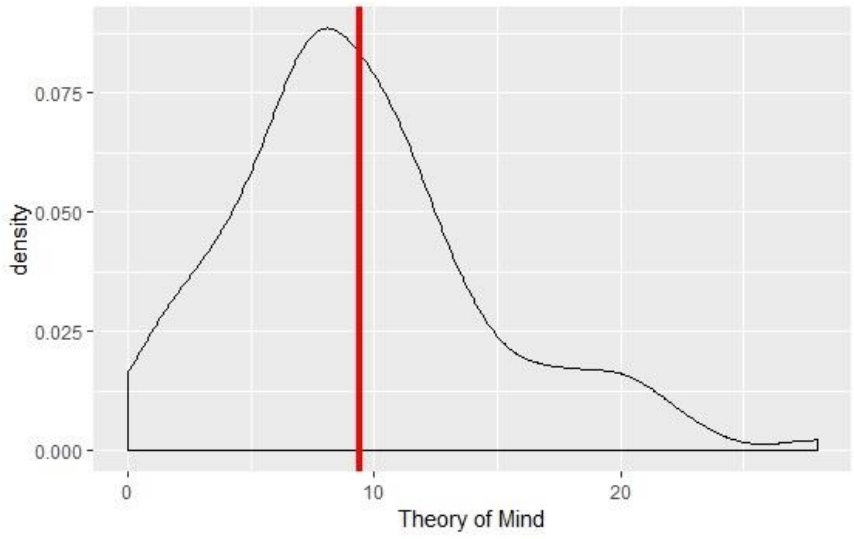
With respect to the variables assessed in children, Figure 5 shows the distribution of scores pertaining to socioemotional risk, measured using the *Ages and Stages Questionnaire: Socioemotional* (ASQ_SE). Here, 56% of children had scores that were below the median score, which can be attributed to a low number of children with scores that had scores that were far from the average score, which influences the median of the distribution. In effect, 11% fall one standard deviation above the average and 5% fall two standard deviations above the average, which represents a high proportion considering that these scores are far from the median scores.

Figure 5. Distribution of socio-emotional difficulties



Finally, Figure 6 shows the distribution of the Theory of Mind scores assessed through the *Evaluation of Theory of Mind* (ETM). Fifty-six percent of children had scores that fell under the median of the distribution, while 86% scored one standard deviation above the average and 93% scored two standard deviations above the average.

Figure 6. Distribution of Theory of Mind scores



Utilizing the cutoff scores established by the instrument, about 26.7% (n=31) are below what is expected (?- is this a weird way of putting it), 47.4% (n=55) is within the range of what was expected, and 25% (n=30) were above what is expected.

Correlation results

Table 4 presents the correlations between the variables of interest in order to test the relationship between them. As a result, with respect to the variables assessed in the mothers participating, depression was associated to anxiety scores, avoidance scores, and childhood trauma, while it was also associated to the socioemotional problems in their children. Anxiety was strongly associated to avoidance and less so with pre-mentalization and with childhood trauma. Anxiety was also associated to the child's socioemotional problems.

Table 4. Correlation matrix

	Depression	Anxiety	Avoidance	Pre-mentalization	Childhood trauma	Theory of Mind
Anxiety	0.39***					
Avoidance	0.39***	0.57***				
Pre-mentalization	0.14	0.25*	0.31**			
Childhood trauma	0.31**	0.23*	0.26**	0.06		
Theory of Mind	0.11	-0.11	-0.11	-0.134	0.03	
Socio-emotional problems	0.30***	0.29*	0.30**	0.26**	0.02	-0.027

"***" p<.001, "**" p<.01. "*" p<.05

Avoidance was also associated to the scores of pre-mentalization (r=0.31; p<.01), childhood trauma (r=0.26; p<.01), and was also associated to socioemotional problems (r=0.30; p<.01) in children. Finally, pre-mentalization also showed to be associated to socioemotional problems (r=.026; p<.01) in children. The data also shows that there are a series of variables of the mothers which are associated with each other, like, depression, childhood trauma, anxiety, avoidance, and pre-mentalization, although the last is not associated to scores of symptoms of

depression. Moreover, all are associated to socioemotional problems in the child in a similar manner. On the other hand, an absence of relationship between theory of mind and the other variables of this study can be observed, leading to the assumption a model cannot be generated with the scores shown by the variable theory of mind.

Multiple regressions were also carried out in order to test the predictive value that the maternal variables would have on their child's development (*socio-emotional development and Theory of Mind).* The dependent variable was the child's score of theory of mind and socioemotional problems. The independent variables were avoidance, symptoms of depression, pre-mentalization, and maternal experience of childhood trauma. Avoidant attachment style was specifically used as an independent variables because it yielded a stronger association to the other variables than anxious attachment style. Additionally, the mother's age, the child's age, and the child's sex were used as control variables. Table 5 shows the regression model for the theory of mind scores. As was observed in the correlation table, significant relationships were not detected between the independent variables and theory of mind in the child, with the exception of age. This suggests that theory of mind is influenced by developmental and maturity factors which can explain the differences between the scores observed.

Table 5. Multiple regression model: Theory of Mind

	β	Std. Error	t value	p-value	Stand. β
Intercept	12.1	1.739	7.01	.000	
Child age	0.30	0.132	2.31	0.023	0.21
Child sex	-0.61	1.039	-0.59	0.555	-0.05
Mother's age	0.10	0.077	1.39	0.167	0.13
Avoidance	-0.31	0.396	-0.78	0.435	-0.09
Anxiety	-0.39	0.392	-1.02	0.312	-0.11
Depression	0.15	0.087	1.82	0.072	0.19

Pre-mentalization	-0.59	0.421	-1.42	0.158	-0.13
Childhood trauma	-0.00	0.047	-0.08	0.939	-0.00

Note: Results centered on mother and child age average.

Another model of multiple regression was also carried out, this time using as a dependent variable the socioemotional problems in the child and the independent variables were avoidance, anxiety, symptoms of depression, pre-mentalization, and maternal childhood trauma. Additionally, mother's age, child's age, and child's sex were used as control variables as well. The results of this multiple regression model are presented in Table 6. It can be observed that as the scores of symptoms of depression and pre-mentalization in the mothers go up, so do the scores of their child's socioemotional problems. On the other hand, this does not occur when there is an increase in the scores of childhood trauma, avoidance, and anxiety, as there are no associations that were statistically significant.

Table 6. Multiple regression model: Socio-emotional problems in child

	β	Std. Error	t value	p-value	Stand. β
Intercept	18.99	7.99	2.38	.019	
Child age	-1.82	0.70	-2.61	.010	-0.22
Child sex	9.81	5.33	1.84	.068	0.16
Mother's age	-0.82	0.39	-2.07	.040	-0.17
Avoidance	2.92	2.07	1.41	.160	0.15
Anxiety	0.47	1.99	0.24	.813	0.02
Depression	0.90	0.44	2.04	.044	0.19
Pre-mentalization	6.25	2.20	2.84	.005	0.25
Childhood trauma	-0.22	0.25	-0.89	.37	-0.08

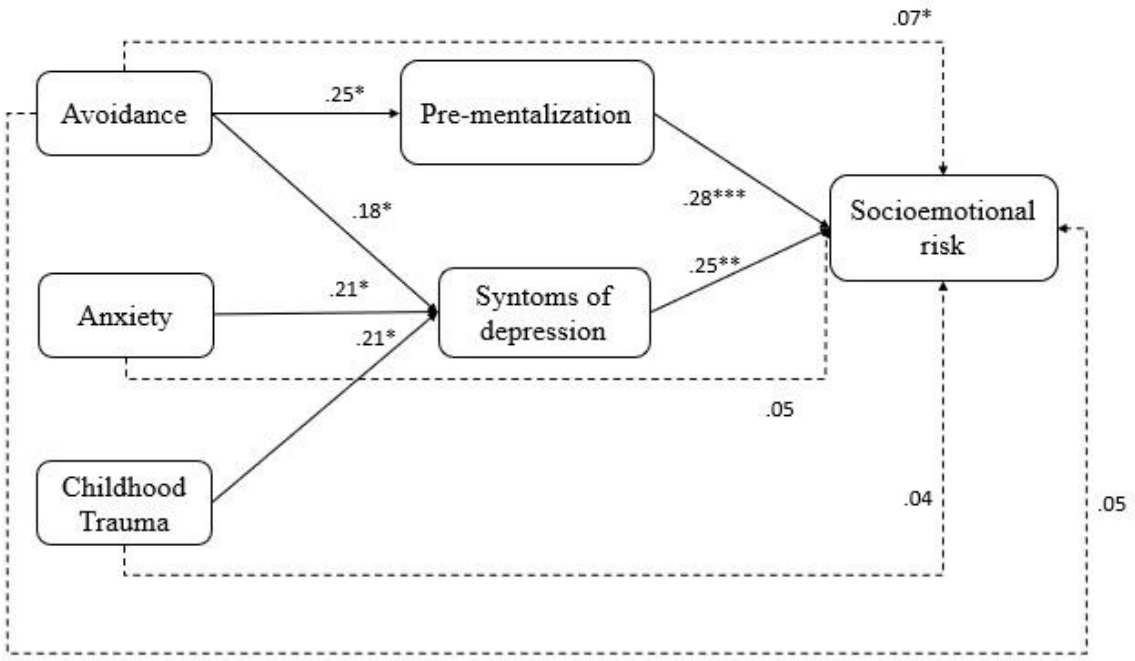
Note: Results centered on mother and child age average.

Mediation results

The regression model is informing that, while associations were found between socioemotional problems in children and maternal childhood trauma, anxiety, and avoidance (see Table 4), these associations were not observed once controlling for differences in the other variables of the model. In this line, it can be hypothesized that the correlations that were initially observed were due to an association between socioemotional problems in children, levels of anxiety, avoidance, and childhood trauma to symptoms of depression and pre-mentalization. Results show that the association between the parental variables, symptoms of depression and pre-mentalization, did not show to be significant as hypothesized and explored in this study.
In order to try the mediation hypothesis, a path analysis was used with the purpose of evaluation the presence of the indirect effects between avoidance, anxiety, and childhood trauma, using pre-mentalization and symptoms of depression as possible mediators, as they are the only two variables directly related to socioemotional problems in children.

Shapiro Wilk test was carried out in order to contrast the distribution of the observed residuals with a normal distribution that proved statistically significant $W = .997$, $p = .042$. While convention indicates a cutoff score of .05, statistical signiciance is very close to the rejection region of the null hypothesis, indicating that the data was distributed normally.

Figure 7. Path analysis presenting the complete model



Note: Mother age, child sex, and child age were controlled for. All associations presented by an arrow present an association of p<.10.

Figure 7 presents the path analysis model. A maximum likelihood estimation was used, resulting in a model with low parameters at a general level $X_2(10)= 24$, p = .007, CLI=.814, TLI = 610, RMSEA = .10, 90% CI[.053, .16], SRMR = .05. For this reason, the estimation should be interpreted with caution, as the correlation matrix implicated in this model can have some discrepancies with respect to the original matrix.

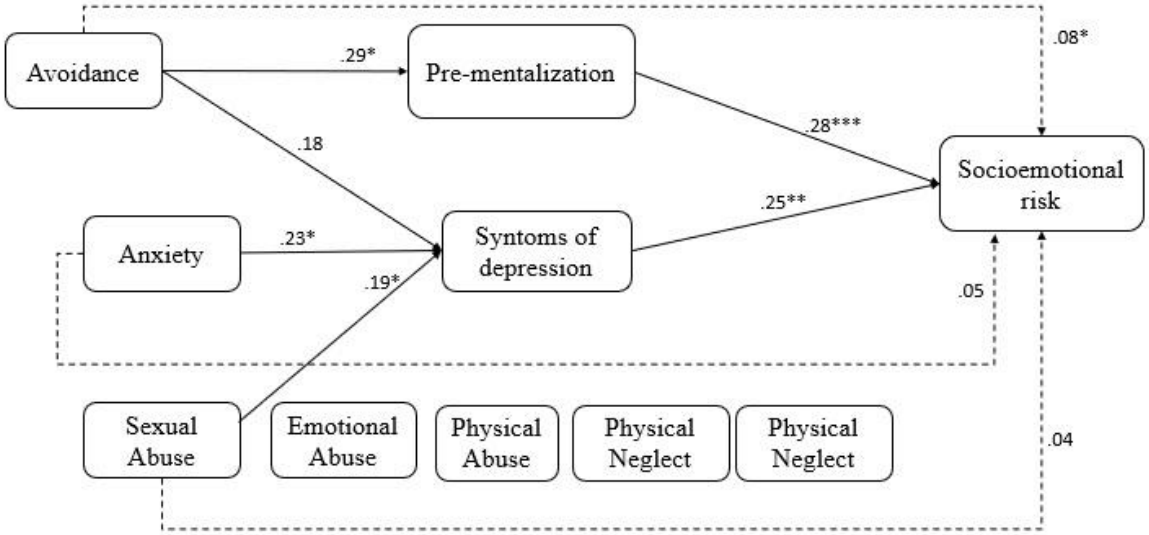
The model used as mediators, pre-mentalization and symptoms of depression. As a result, we are able to observe that symptoms of depression are explained by avoidance, anxiety, and childhood trauma, while, pre-mentalization is only explained by avoidance. Likewise, similar to the aforementioned regression model, pre-mentalization and symptoms of depression showed to be significant predictors of socioemotional risk in children. However, indirect effects of anxiety and childhood trauma on socioemotional risk , though the mediators could not be established,

though the indirect relationship between anxiety and socio-emotional risk mediated by symptoms of depression were close to being significant ($\beta = .05$, $p = .074$), similarly to the indirect relationship between Childhood trauma and socio-emotional risk in children ($\beta = .04$, $p = .075$). As presented in Figure 7 by a dotted arrow, avoidance can influence socio-emotional risk by means of pre-mentalization ($\beta = .07$, $p = .050$), though this result should be interpreted cautiously due to the close p-value to the null hypothesis acceptance zone.

In addition, considering that the scores of childhood trauma were constructed using a sum of subscales, a new model was generated with the purpose of distinguishing between different types of trauma during childhood. The model presented in Figure 8 shows good parameters $X_2(20) = 24.138$, $p = .236$. CFI = .93, TLI = 898. RMSEA = .042, SRMR = .041. These parametric indicators allow us to assume that this model is a better representation of the data utilized to generate it, making it a better source of evidence to make inferences in respect to how the mothers characteristics are associated to socio-emotional risk in their children.

This first path analysis model shows that the variance explained by the endogenous variables were as follows: socio-emotional risk in children $R_2 = .24$ (effect size $f_2 = .31$), symptoms of depression $R_2 = .21$ (effect size $f_2 = .26$), and pre-mentalization $R_2 = .093$ (effect size $f_2 = .09$).

Figure 8. Path analysis complete model differentiating different types of trauma



Note: Maternal age, child sex and age variables were controlled for. All associations represented by an arrow presented a p<.10. All types of trauma were incorporated as predictors of symptoms of depression, with the exception of sexual abuse which reached levels of significance above .50. No association was found between the variables that are not pointed to by arrows.

From this model we can observe that only sexual abuse during childhood was associated to an increase in scores of symptoms of depression, as other forms of trauma have significance levels over .50, which can lead us to think that it is not probable that they could affect symptoms of depression once controlling for other types of trauma. On the other hand, while an indirect effect of the presence of maternal experience of sexual abuse on child risk of socio-emotional problems mediated by symptoms of depression was not observed, this association was close to being significant ($\beta = .048$, $p = .087$). Considering that the sample used to generate this analysis was not big, it is possible that a larger sample size be required to determine if this mechanism of influence, of sexual abuse during childhood towards socio-emotional risk in the child, can occur by means of symptoms of depression in the mother.

In this second path analysis model, the variance explained by the endogenous variables are as follows: socio-emotional risk in children R_2 = .24 (effect size f_2 = .32), symptoms of depression R_2 = .23 (effect size f_2 = .31), and pre-mentalization R_2 = .08 (effect size f_2 = .09),

Additionally, observing the model presented in Figure 8, the anxiety dimension in terms of maternal attachment style has an indirect effect on socio-emotional risk mediated by maternal symptoms of depression that is close to statistical significance (β = .059, p =.060), while avoidance continues to show a significant influence on the child through its influence on pre-mentalization (β = .084, p =.014). However, no indirect association was found between avoidance and socio-emotional risk mediated by symptoms of depression (β = .047, p =.110).

The previous findings yield the pertinence of separating the influence of childhood traumas in order to explain symptoms of depression and mediated by these symptoms the effects on the socio-emotional risk that the child is exposed to. In the present study, one can observe how the presence of sexual abuse can be the most determinant traumatic factor when explaining the presence of symptoms of depression . At the same time, the influence of anxiety and avoidance as attachment dimensions, can have differing influential mechanisms on the socio-emotional development of the child: avoidance expressing itself through pre-mentalization, and anxiety expressing itself through symptoms of depression. Finally, we can observe that pre-mentalization and maternal symptoms of depression are relevant factors when explaining the socio-emotional risk of children.

Discussion

The present study analyzed the relationship between the variables assessed from mother/child dyads both in the mothers and in their children in a non-clinical vulnerable Chilean population. These variables were the following, mothers were assessed for experience of childhood trauma (composed of 5 subscales that assessed for specific traumatic experiences) , parental reflective functioning, symptoms of depression, and adult attachment style. The children of the study were assessed for socio-emotional development and Theory of Mind. The main purpose of the study was to describe the relationship the maternal variables had to their child's development and to describe the role that parental reflective functioning had in mediating the effect maternal experience of trauma, attachment style, and symptoms of depression to their child's development. This study also sought to explore what relationship, if any, specific types of trauma had to all the variables, and to identify if in this population of participants, one specific type of traumatic experience during childhood had a potentially stronger effect on maternal symptoms of depression, parental RF, and adult attachment style and on their child's socio-emotional development and Theory of Mind development.

The first hypothesis presented in this study focused on the variables considered for the mothers who participated in the study and states that greater maternal experience of trauma would be associated to greater symptoms of depression, increased pre-mentalization, and greater insecurity of attachment (Hypothesis 1). The analysis carried out confirmed this hypothesis partially, as the model presented from the path analysis showed that childhood trauma was significantly associated to symptoms of depression and insecurity of attachment. The relationship between symptoms of depression and childhood traumatic experiences has been extensively researched and reported on, findings have indicated that the experience of childhood trauma is a

significant risk factor of depression. National and international studies have shown that people who have experienced trauma during early developmental years are more likely to suffer from depression and symptoms of depression then their peers, and that multiple experiences of trauma had even more severe consequences (Ballesteros et al., 2007).

Childhood trauma was also found to be significantly associated to adult insecure attachment styles (avoidant attachment style and anxious attachment style), but not to prementalization. The relationship between childhood trauma and adult attachment style is congruent with previous empirical findings and clinical consensus that trauma during childhood can disrupt or disturb a person's attachment system; individuals who have experienced trauma during their childhood can experience dysfunctional interpersonal patterns and their sense of seeking safety, emotional closeness, and intimacy can be affected, in some cases in life-altering ways (Yumbul, Cavusoglu, & Geyimci, 2010). Chilean studies have also found this relationship in national populations, for example, Vitriol, Ballesteros, & Arellano (2004) found that in a sample of 173 women residing in a psychiatric hospital in Curicó, 82% of women had histories of trauma that were associated to their symptoms of depression and addiction. Additionally, 43% of the participants suffering from depression had experienced sexual abuse, which this study also found was correlated to symptoms of depression at a greater rate than other types of traumatic experiences.

On the other hand, the absence of a relationship between childhood trauma and pre-mentalization could be in part due to a large number of the participants in this study that showed an absence of trauma. It is also important to consider that the way in which trauma affects aspects of parental reflective function is much more nuanced than we thought and more studies are needed to widen our understanding of this important relationship. For example, Fonagy states

that we are still understanding how trauma affects different aspects of parental reflective functioning and more recently, a study by Berthelot & colleagues (2015) found that, "*mentalization* is not necessarily determined by the characteristics of trauma, nor is there a direct link between exposure to trauma, per se, and infant attachment. This highlights the importance of trauma-specific mentalization and suggests that it is not the experience of trauma, per se, but *the absence of mentalization regarding trauma* that underlies the risk of infant attachment disorganization".

Another relationship found in this study was between symptoms of depression and insecure attachment styles, in both avoidant attachment style and anxious attachment style. This finding seems to be consistent with findings from other studies that have found a positive relationship between insecure attachment style and symptoms of depression (Mallinckrodt & Wei, 2005 ; Marganska, Gallagher, & Miranda, 2013; Wei et al, 2004). The specific relationship between avoidant attachment style and anxious attachment style is congruent with findings from previous studies, for example, Hankin, Kassel, & Abela (2005) found that in a sample of 202 people, both anxious and avoidant attachment style predicted the emergence of symptoms of depression at 8 weeks and at 2 years. Marganska, Gallagher, & Miranda (2013) also found that anxious and avoidant attachment style seem to have the strongest concurrent and prospective relationship to symptoms of depression.

The second hypothesis of this study focused on the children's variables and proposed that socioemotional development would be found to be associated to Theory of Mind in children. As such, Theory of Mind was not found to be related to the child's socioemotional development, or any other variable considered in this study. Theory of Mind was only found to be significantly

correlated to age. As such, it is possible that the children who participated in this study were too young to complete the false-belief tasks of the instrument, as studies have shown that the ability to complete false-belief tasks increases with age (Tarmaz Sari, 2014). Performance on false-belief tasks have also been associated to language development; as children get older and improve their language skills, their false-belief task performance improves as well (Milligan, Wilde Astington, & Ain Dack, 2007). Another equally important factor to consider from these results is that there has not yet been a clear consensus that false-belief task performance follows a uniform timeline of development. For example, Liu, Wellman, & Tardiff (2008) argue that while the emergence of Theory of Mind and performance in false-belief tasks generally follow a developmental trajectory across cultures, the timetable might vary depending on socio-cultural context and further study could be important in considering Theory of Mind development in Chilean populations of preschool-aged children.

The third hypothesis proposed that greater experience of maternal trauma, insecurity of attachment, increased symptoms of depression, and prementalization would lead to greater socioemotional developmental risk in children and decreased Theory of Mind capacities. This hypothesis was confirmed partially. As mentioned previously, Theory of Mind was not found be significantly associated to any other variables. However, results from this study showed that children's socioemotional development was most at risk when their mothers showed increased symptoms of depression and increased use of pre-mentalizing modes. The relationship between symptoms of depression and children's socioemotional development has been studied extensively and these results are comparable to other findings that have shown that maternal symptoms of depression are related to a wide range of iatrogenic developmental outcomes in children (Lyons-Ruth, Wolfe, & Lyubchik, 2000). The effect that maternal depression has on

children spans across developmental periods from infancy to adolescence (Downey & Coyne, 1990) and presents problems socially, academically, and behaviorally (Lyons-Ruth, Wolfe, & Lyubchik, 2000). As such, maternal symptoms of depression are related to a myriad of parenting practices that can get in the way of healthy socio-emotional development, especially during crucial developmental periods like preschool. Mother's experiencing depression are less likely to read to their children, engage in positive play, display more irritability and hostility towards children, and have more negative interactions (Lyons-Ruth, Wolfe, & Lyubchik, 2000; Pawlby et al., 2010). Interestingly, maternal symptoms of depression are not always manifested in the stereotypical picture of depression that has been popularized of a lethargic, sad, and withdrawn woman, rather, symptoms of depression can, and often do, lead to hostile, intrusive, and at times angry parent-child behaviors and interactions (Downey & Coyne, 1990; Van Horn & Lieberman, 2008). Additionally, maternal symptoms of depression have been associated to insecurity of attachment (Landy, 2000; Murray & Cooper, 1992; Van Horn & Lieberman, 2008) and a general lack of attunement to children's emotional needs (Landy, 2000). Lack of attunement and inability to soothe a child during times of distress can be confusing for small children, leaving them to contain their own intense emotions. As such, self-regulatory capacities, imperative to socio-emotional development, can potentially be distorted and result in overwhelm and interpersonal conflicts (Landy, 2000). As mentioned earlier, a significant relationship was also found between increased prementalization and children's socioemotional risk. To reiterate, pre-mentalization is a construct within the Parental Reflective Questionnaire that refers to a parent's tendency to assume they are aware of their child's mental states, even when they might be incorrect. The relationship found between pre-mentalization and child's socio-emotional development is congruent with other studies that have concluded that a child's socio-emotional

development is rooted in the understanding of a large range of emotions and the ability to communicate emotions with the use of mental language, for which the caregiver provides the framework for since birth (Kavenough, 2006). When a parent's ability to provide this framework of understanding of emotions for their child is hindered or distorted, it can pose developmental problems, especially for pre-school aged children who are learning to navigate and thrive using their social and emotional skills.

The finding that the more mothers experienced symptoms of depression and the more they used pre-mentalizing modes, the more at risk their children were in terms of their socioemotional development is existing literature that points how depression can inhibit mentalizing capacities. Symptoms of depression can compromise the mother's ability to engage her child in a way that reflects her child's internal states. As mentioned in the theoretical background section of this paper, research has found that as the severity in symptoms of depression increases, mothers experiencing these symptoms tend to have lower PRF (Rosenblum et al., 2008), which has been shown to affect their child's emotional understanding, false-belief performance, and conduct and mood difficulties, which are important components of a child's socio-emotional development (Guajardo, Snyder, & Peterson, 2008).

Regarding hypothesis 3 of this study, it is important to note that findings pointed to the following relationship: as the mothers participating in this study reported more symptoms of depression and more use of prementalization, their children were at increased risk for problems with their socioemotional development. However this was not true for the other maternal variables measured, which were attachment style and experience of childhood trauma. This makes sense, as the mere fact of being a survivor of a traumatic childhood or having insecure attachment styles does not necessarily destine a parent to have children who have socioemotional

problems. In fact, Berthalot et al. (2015) has pointed to more research needed to further our understanding about the difference between unresolved experiences of trauma versus resolved trauma and how they affect parenting and the role that parental RF has mediating the effects on the survivor's offspring. While child abuse and/or neglect can have potentially iatrogenic effects on parenting and offspring, it is important to consider if there has been any experience of reflecting on traumatic experiences, rather than just assessing for traumatic experiences. In other words, it's important to consider the mother's capacity to reflect on her traumatic experiences and gain insight into how she reflects on it and what are the potential effects she mediates in her daily interactions to her child. As Berthalot et al. (2015) states, *"Awareness of the emotional impact of abusive experiences may help mothers to maintain an appropriate perspective that not only takes into account their own reactivity to their infant's displays of distress that trigger memories and feelings related to their own traumatic past (Fonagy, Luyten, & Strathearn, 2011) but also keep the infant in mind so that they are able to respond appropriately to the infant's need to be soothed. For these parents, the ability to mentalize past traumatic experiences and consider their impacts might increase their ability to maintain controlled RF in these challenging circumstances and prevent them from switching to more automatic, so-called non-mentalizing modes that typically emerge under stress."* It is also important to highlight that mentalizing capacities may be at the root of resiliency for those who have survived traumatic childhoods and further research on parental reflective functioning as a resilience factor could help us understand the mechanisms through which traumatic experiences play out as the victim becomes an adult and a parent (Fonagy et al., 2002). Mentalization is a multifaceted construct and while a child may have traumatic experiences, this does not rule out other people in her life

that provide attunement, contingency, and a reflection of the self that can lead to the development of mentalizing capacities.

When analyzed by each separate dimension of childhood trauma, results from this study showed that the experience of sexual abuse during childhood significantly increased the symptoms of depression in mothers. This analysis addressed hypothesis 4 of this study, which sought to explore if there would be different effects depending on the type of trauma experienced during childhood. Sexual abuse was found to have the strongest relationship to maternal symptoms of depression. This is consistent with other studies that have found that sexual abuse during childhood can lead to more pronounced and/or severe symptoms of depression (Ballesteros, Vitriol, Florenzano, Vacarezza, & Calderon, 2007; Hillberg, Hamilton-Giachritsis, & Dixon, 2011; Maniglio, 2010). While the indirect effect between maternal experience of childhood sexual abuse and their child's socioemotional development was not found to be significant, it can be noted that there was a statistical tendency that was close to being statistically significant and further research in this area using a larger sample size could help to determine the mechanism through which this type of traumatic experience can influence a child's socioemotional development.

Finally, hypothesis 5 of this study proposed a model in which parental reflective functioning would be a mediator between maternal experience of childhood trauma, symptoms of depression, adult attachment style, and their child's socioemotional development and Theory of Mind. As mentioned earlier in the discussion, symptoms of depression seemed to mediate the relationship between insecurity of attachment and childhood experience of trauma, whereas pre-mentalization seemed to mediate the relationship between avoidant attachment style and children's socioemotional development. The particular relationship between avoidant attachment

style and prementalization concurs with other findings regarding avoidant attachment style and behaviors that support healthy parental reflective functioning. For example, Rholes, Simpson, & Blakely (1995) found that avoidant mothers tended to report greater emotional detachment from their young children at higher rates than mothers who fell under other insecure attachment classifications. Another study by Rholes, Simpson, & Friedman (2006) assessed 106 couples and found that avoidant attachment style was significantly related to parents reporting a lack of desire in becoming a parent 6 weeks and 6 months postpartum, difficulty deriving meaning from parenthood, had greater difficulty relating to their children and were more likely to report being emotionally detached from their children, all factors that are important to reflective functioning. It is plausible to postulate that avoidant caretakers find it more difficult to provide their children with contingent, empathic, and reflective experiences that are characteristic of mentalizing, especially as research has indicated that avoidant adult themselves were more likely to have experienced less sensitive and more rejecting care during childhood (Levy, Blatt, & Shaver, 1998; Rholes, Simpson, & Friedman, 2006). Prementalization is a mechanism that inhibits emotional connection and does not allow the mother (in this study) to connect to the inner thoughts, emotions, and feelings of her child in a way that would allow her to understand her child's motivations; this is congruent with an avoidant attachment style, which inhibits a connection to one's internal world and others. This is an interesting area of future study, as researching specific attachment styles and their effects on parenting, or different aspects of parenting, can clarify intergenerational transmission of attachment styles (Rholes, Simpson, & Friedman, 2006).

These findings on the relationship between parental reflective functioning and insecure attachment point to the nuances that have been evidenced in other studies that assess attachment

style and parental reflective functioning. First of all, there have been difference found in the PRF capacities among caregivers that have an insecure attachment organization. As mentioned in the theoretical background section of this paper, Slade et al. (2005) found that of all insecurely attached caregivers, they found that disorganized insecurely attached caregivers showed the lowest PRF capacities. They point to the intersection between disorganized and disconnected attachment representations from their childhood as being intertwined with attachment style and PRF capacities. It is also important to thing about the specific mentalizing failures that insecurely attached caregiver are prone to, as they have not been found to necessarily have global PRF failures, rather specific PRF failures when their children expressed anxiety (Beebe et al., 2010). These specific failures in PRF with caregivers who have an insecure attachment orientation would be interesting to consider for future research.

It is also important to note that while anxious attachment style did not have a significant indirect effect on the child's socioemotional development, the relationship was close to statistical significance, as was avoidant attachment style. This study found that avoidant attachment and anxious attachment seemed to have different mechanisms of influence on the child's socioemotional development (anxious attachment by means of maternal symptoms of depression and avoidant attachment by means of prementalizacion). This points to further study needed to understand the different mechanisms through which insecure attachment style can affect future offspring.

Additional analysis

As mentioned previously, during 2017 an article was published to *Frontiers* named, *Manifestation of trauma: A closer look at different types of traumatic experience, adult attachment and their effects on parental reflective functioning* (San Cristobal, Santelices, &

Miranda Fuenzalida, 2017). The data used for this article was secondary data from the FONDECYT project 1130786 and consisted of 125 mothers evaluated during 2014-2015. This article used the *Parental Reflective Functioning Questionnaire* (Luyten et al., 2009) to measure parental reflective functioning, the *Childhood Trauma Questionnaire* (CTQ-SF)(Bernstein et al., 2003) to measure childhood experience of trauma, and the *Experiences in Close Relationships Scale* (ECR) (Brennen, Clark, & Shaver, 1998) to measure adult attachment styles. The main findings of this study were that firstly, the types of trauma assessed (physical abandonment, physical negligence, emotional abandonment, emotional negligence, and sexual abuse) were found to be inter-related. This points to what the literature on trauma has pointed out before, that one type of trauma often co-exists with other types of trauma (Trickett, Mennen, Kim, & Sang, 2009). Similar to this research paper, the article in question also found a significant relationship between pre-mentalizing modes and insecure attachment which has also been evidenced by other studies that point to insecure attachment as a signal of limitation in terms of mentalizing skills (Fonagy et al., 2002; Slade, 2005). This particular article also found that the strongest predictor of pre-mentaling modes in the parent (as measured by the PRFQ) was the experience of physical negligence and insecure attachment style.

Limitations of the study

It is important to note that the present study only included women (mothers) to participate and excluded men. Research has evidenced that women, especially women belonging to low-income communities, are disproportionately affected by issues related to mental health and are particularly vulnerable to experiences of trauma during childhood and symptoms of depression, this is true in Chile and in other parts of the world (Gaviria, 2009; Guia Clinica

AUGE, 2013; Joy & Hudes, 2010). In fact, symptoms of depression often increase during child-bearing years, and parenthood can trigger symptoms of depression for some women, especially those who have experienced trauma during their childhood (Flykt, Kanninen, Sinkkonen, & Punamaki, 2010). However, while this particular study excludes men, including fathers' early childhood experience, especially the experience of trauma and depression, is essential to our understanding of children's mentalizing and socioemotional development and an important area of future research.

This study measured symptoms of depression using the Beck Depression Inventory (BDI), which assesses depression in the last two weeks prior to completing the questionnaire. While the BDI is a widely used instrument that has been validated in Chile, its use presents some important limitations for the purposes of this study. Firstly, it is difficult to discern if the symptoms of depression were in fact related to maternal experience of childhood trauma, as the instrument does not address a clinical diagnosis of depression or if the participant experienced depression throughout her lifetime. The instrument does not address what the symptoms of depression are attributed to, for example, if they were indeed related to the participant's experience of trauma, which is important to consider when interpreting the findings of this study. For this reason, the findings of this study should be taken with caution and future studies could incorporate thorough assessment of symptoms of depression as they pertain to the experience of trauma during childhood.

For this particular study, the Parental Reflective Questionnaire was used a measure for parental mentalizing capacities. While this instrument has shown an adequate Cronbach's Alpha of 0.7 or greater in a Chilean population, there has not been a standardized version of this instrument nationally and the findings should be taken with

discretion. Due to statistical reliability in this sample, only the prementalizacion scale was used, however it would be important for future studies to include instruments that measure the parental reflective function more finely, as this study might not have captured the complexity of the mechanisms that underlie mentalization. A national standardization of the PRFQ is needed in order to adequately measure this construct. It would also be interesting to explore the pre-mentalization scale in depth as it relates to the issues of parental experience of trauma and child development. Pre-mentalizing modes refer to a parent's inability to enter into their child's subjective world and is characterized by the tendency to make maladaptive and malevolent attributions to their behaviors. Future studies that measure parental experience of trauma more comprehensively could assess its relationship to pre-mentalizing modes in parents of preschool age children, furthering our understanding of how childhood traumatic experiences can potentially distort parental attributions of their children's behaviors with important clinical implications for intervention and treatment methods. Fonagy himself has stated that parental reflective functioning is a multidimensional construct, with each dimension tapping into different features of parental psychological functioning. Recently, studies have found that pre-mentalizing modes have been more strongly associated to level of education, working hours and attachment insecurity and this scale has been most associated to parental emotional availability. Thus, there are many areas for future studies to examine these relationships closer and in depth.

It is also important to note that the current study did not differentiate between mothers with experience of childhood trauma and had been exposed to psychotherapeutic interventions, or other interventions, that can have possible effects on mentalizing

capacities. Furthermore, childhood trauma was assessed by a self-report measure. While this has many advantages in terms of time and convenience to the participant completing the questionnaire, it is also important to note that self-report measures concerning a retrospective report of trauma during childhood can be influenced by factors such as symptoms of depression. For example, Hardt & Rutter (2004) point to a negative recall bias that causes people experiencing depression to not be able to accurately recall childhood events. Traumatic events can also be nuanced, complex events in a person's life and it could be useful to take into consideration assessment tools that capture trauma more finely.

The use of the CTQ also presents some problems as a self-report measure because responses can be influenced by a number of issues, from the participant's mood and current life circumstances to other mental health issues, etc. The use of instruments that complexly delve into parental history of trauma, such as the Traumatic Events Screening Instrument (TESI) can provide a comprehensive understanding of traumatic events in a person's life. It is important to note that use of instruments like the TESI can conjure up painful memories and potentially PTSD symptoms that should be addressed by a professional.

This particular study was not able to discern the role of Theory of Mind (ToM) development in this particular sample. As mentioned in the discussion portion of this manuscript, ToM was only found to be significantly correlated to age, pointing to the possibility that the children who participated in this study were too young to be able to complete the false-belief tasks asked of them. There may also be a socio-cultural component, as there is not yet a consensus that false-belief task performance follows a

uniform timeline of development and that the timetable may vary depending of the socio-cultural context.

This study used the ECR-S which has been a complicated instrument to use in national samples due to problematic statistical reliability. This instrument has been used in many studies in Chile, and as part of the MIDAP initiative, this instrument was decided upon as it is a less time-consuming and costly self-report measure and its use contributes to a larger research initiative in Chile. However, future studies would benefit from the use of instruments that would capture complex attachment styles in adults as it pertains to their child's attachment style such as the Adult Attachment Interview (George, Kaplan, & Main 1985).

Finally, future studies should also consider that the relationship between caretaker variables, such as those considered in this study, and the socioemotional development of children can also be bidirectional and considering the aspects of children, such as temperament, can affect the way in which caretakers respond to their children as well (Fonagy & Sharp, 2008).

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APPENDICES

APPENDIX 1. Letter from ethics committee athorizing study

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
FACULTAD DE CIENCIAS SOCIALES / ESCUELA DE PSICOLOGÍA

Santiago, 24 de abril, 2014

Señores
Comité Asesor de Bioética de FONDECYT
Presente

Estimados Señores:

El Comité de Ética de la Escuela de Psicología de la Pontificia Universidad Católica de Chile, conformado por los académicos Christian Berger, Pablo de Tezanos-Pinto, Lydia Gómez, Héctor Madrid, y Eugenio Rodríguez, ha revisado los antecedentes requeridos del proyecto titulado "Diseño, implementación y evaluación de una intervención en Apego/Mentalización para madres y padres de niños de 3 años que asisten a jardín infantil", (proyecto Fondecyt no. 1130786) respecto de una modificación en las cartas de consentimiento solicitadas por la investigadora responsable, María Pía Santelices Alvarez.

Tras haber revisado el proyecto en profundidad, declaramos que el protocolo del mismo se ajusta a los criterios de bioética y ética de investigación científica vigentes en FONDECYT en relación a los requerimientos de estudios con humanos y a la Ley N°20120. Adicionalmente, damos constancia de que la investigadora responsable ha considerado detenidamente las dimensiones éticas de su proyecto y ha generado una reflexión acerca de cómo asumir responsablemente las potenciales consecuencias de su trabajo de investigación. A continuación se señalan las principales razones en que se basa esta certificación.

En primer lugar, la relevancia de este proyecto radica en su eventual contribución al conocimiento del desarrollo infantil temprano y la generación de estrategias de trabajo para su fortalecimiento. Con respecto a la relevancia social, destaca el énfasis en una mirada promocional del rol de padres y educadores en el desarrollo preescolar.

AV. VICUÑA MACKENNA 4860 - MACUL - TELÉFONOS (56-2) 23545980 - 23544636 - 23544639 - 23544631 - 23544840 - 23544844 - 23544846
www.psicologia.uc.cl

En segundo lugar, respecto de la evaluación de riesgos y beneficios para los participantes del estudio, cabe indicar que la investigadora no prevé riesgos asociados a la participación. Por el contrario, se plantean como beneficios el contar un programa orientado a desarrollar y potenciar competencias parentales en una edad considerada de gran relevancia como es la etapa preescolar.

En tercer lugar, respecto de la protección de los participantes, las cartas de consentimiento son adecuadas para asegurar la libertad de participación y de abandonar el estudio sin ningún perjuicio, garantizando la comprensión de la finalidad general de la investigación, así como resguardando la confidencialidad de la información obtenida. Estas cartas incluyen información de contacto tanto de la investigadora responsable como del Comité de Ética para consultar sobre sus derechos. Es importante señalar que la investigadora ha fundamentado adecuadamente los procedimientos que le permitirían resguardar la confidencialidad de toda la información obtenida.

Sin otro particular, se despide cordialmente,

P. UNIVERSIDAD CATOLICA DE CHILE
COMITE DE ETICA
ESC. DE PSICOLOGIA

Christian Berger
Secretario Ejecutivo
Comité de Ética
Escuela de Psicología
Pontificia Universidad Católica de Chile

CC. Sr. Diego Cosmelli, Subdirector de Investigación y Postgrado.
Archivo Comité de Ética EPUC.

APPENDIX 2. Informed consent (directions of JUNJI presschool participating in study)

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

ESCUELA DE PSICOLOGÍA
PROYECTO FONDECYT 1130786

P. UNIVERSIDAD CATOLICA DE CHILE
COMITE DE ETICA
ESC. DE PSICOLOGIA

CARTA DE AUTORIZACIÓN
(Directivos/as de los establecimientos educacionales)

Usted ha sido invitado(a) a participar en el estudio "Diseño, implementación y evaluación de una intervención en Apego/Mentalización para madres y padres de niños de 3 años que asisten a jardín infantil" a cargo de las investigadoras, María Pía Santelices y Chamarrita Farkas, docentes de la Escuela de Psicología de la Pontificia Universidad Católica de Chile. El objeto de esta carta es ayudarlo(a) a tomar la decisión de participar en la presente investigación, la cual tiene la aprobación de la Escuela de Psicología de la UC y de la Junta Nacional de Jardines Infantiles, JUNJI.

El propósito general del estudio es investigar los efectos de una intervención en apego/mentalización orientado a padres y apoderados, en el apego, teoría de la mente y desarrollo de los niños(as). También se pretende evaluar el efecto de la intervención en variables de los padres. Para esto, el presente proyecto ha diseñado en conjunto con educadoras, una intervención que será implementada por psicólogas de la UC, en el jardín infantil. Los resultados y conclusiones de este estudio permitirán apoyar los programas de los jardines infantiles en términos del desarrollo más integral de los niños(as).

Los beneficios a la institución consisten en que el personal educativo participará en un programa que favorece el apego y la mentalización, quedando el material de la intervención a disposición del jardín. Además, los resultados contribuirán al desarrollo del conocimiento científico para favorecer el desarrollo integral de la infancia temprana en nuestro país. Es importante agregar que el presente estudio no contempla ningún tipo de riesgo para los participantes.

A través de la presente se le solicita la autorización para la participación del jardín infantil, del cual usted es directora. Esta participación es voluntaria. Tiene el derecho a decidir abandonar el estudio sin necesidad de dar ningún tipo de explicación y sin que ello signifique ningún perjuicio para usted ni para el establecimiento educacional. Su autorización al estudio como directivo no obliga a la participación en el mismo de apoderados y personal educativo, quienes serán consultados para participar de manera voluntaria e independiente, solicitándoles la firma de una carta de consentimiento. En dicho consentimiento se explícitará que podrán retirarse del estudio en cualquier momento sin ninguna consencuencia, y que tienen el derecho a no responder preguntas si así lo estiman conveniente. La participación del jardín infantil consiste en lo siguiente: Luego de informar al equipo profesional acerca del estudio y de solicitar su consentimiento a participar de la investigación, se les invitará a participar en un Taller de Apego/Mentalización a cargo de psicólogas de la UC. Luego se requiere que el personal educativo le explique a los apoderados a grandes rasgos el estudio. El equipo de investigación contactará directamente a los apoderados para invitarlos a participar de un Taller similar al realizado por el personal educativo, que tendrá una duración de 5 sesiones de 2 horas cada una y estará a cargo de psicólogas de la UC. Para realizar este taller se requiere que el jardín Infantil facilite el espacio físico (sala para 10 personas en horario de conveniencia del jardín).Las fechas tentativas de realización del taller son entre los meses de mayo y julio de 2014.

Además se requiere que la institución educacional facilite el espacio para realizar las entrevistas iniciales con los padres (45 minutos de duración aproximadamente) y luego, que facilite el espacio para las filmaciones con sus hijos, las cuales tendrán una duración de aproximadamente 20 minutos. Estas evaluaciones se repetirán 3 veces, en abril 2014, noviembre 2014 y abril 2015. Al personal educativo se le solicitará que llenen tres cuestionarios en los tres momentos de evaluación, más una filmación de juego libre con un niño(a) de la sala de 10 minutos de duración. Todas estas mediciones se realizarán dentro del jardín infantil en una sala anexa y durante el horario de funcionamiento regular.

Toda la información generada por el jardín infantil será confidencial, para lo cual las respuestas de los participantes serán identificadas solamente con un número de folio y los nombres no serán escritos en ningún cuestionario. Además, la información será discutida en privado y no será conocida por personas ajenas a la investigación. Al finalizar el proyecto se entregará información global de los resultados del estudio, pero no información individual de los participantes de la investigación. Las bases de datos con la información del estudio serán conservadas durante un período de 5 años. Los datos obtenidos serán utilizados para fines de investigación, tanto para la generación de documentos científicos como para la docencia especializada.

Si tiene preguntas respecto a esta investigación, puede contactarse con la investigadora responsable, María Pía Santelices (fono 354-7664). Si tiene preguntas respecto de sus derechos como participante puede contactarse con el Comité de Ética de la Escuela de Psicología de la P. Universidad Católica de Chile, E-mail comite.etica.psicologia@uc.cl, Fono 2354-5883.

Declaro que he leído el presente documento, se me ha explicado en que consiste esta investigación y mi participación en el mismo, he tenido la posibilidad de aclarar mis dudas y tomo libremente la decisión de participar en el estudio. Además se me ha dado entrega de un duplicado firmado de este documento.

Acepto participar en el presente estudio

_____ _____

(Nombre) **(Firma)**

_____ _____

Nombre del investigador **(Firma)**

Fecha: _____

Nombre Jardín infantil: _____

APPENDIX 3. Informed consent (caregivers participating in study)

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

ESCUELA DE PSICOLOGÍA
PROYECTO FONDECYT 1130786

CARTA DE CONSENTIMIENTO
(Apoderados)

Usted y su hijo(a) han sido invitados(as) a participar en el estudio "Diseño, implementación y evaluación de una intervención en Apego/Mentalización para madres y padres de niños de 3 años que asisten a jardín infantil" a cargo de las investigadoras, María Pía Santelices y Chamarrita Farkas, docentes de la Escuela de Psicología de la Pontificia Universidad Católica de Chile. El objeto de esta carta es ayudarlo(a) a tomar la decisión de participar en la presente investigación, la cual tiene la aprobación de la Escuela de Psicología de la UC y de la Junta Nacional de Jardines Infantiles, JUNJI.

El propósito general del estudio es investigar el impacto de un taller de apego/mentalización orientado a padres y apoderados, en el apego y desarrollo de los niños(as). También se pretende evaluar el efecto de la intervención en variables de los padres. Para esto, el presente proyecto ha diseñado en conjunto con educadoras, una intervención que será implementada por psicólogas de la UC, en el jardín infantil. Los resultados y conclusiones de este estudio permitirán apoyar los programas de los y jardines infantiles en términos del desarrollo más integral de los niños(as).

Al participar en esta investigación se le pedirá que responda 7 breves cuestionarios sobre aspectos personales, familiares y acerca del desarrollo de su hijo(a), más una filmación de juego libre con su hijo(a) de 10 minutos de duración. Toda la entrevista tendrá una duración aproximada de 45 minutos. Estos cuestionarios se repetirán 3 veces durante el estudio en abril 2014, noviembre 2014 y abril 2015. Además en estas mismas fechas, se le solicitará su autorización para evaluar a su hijo(a) en el jardín infantil con dos instrumentos para medir apego y teoría de la mente y para realizar una filmación de una situación de juego con muñecos de 20 minutos de duración. Cada vez su hijo(a) será invitado(a) a participar de la actividad, y si se niega no se le insistirá de ninguna manera, estando atentos a cualquier manifestación de desacuerdo o malestar.

Asimismo, se le solicitará su participación como apoderado en un Taller de Apego/Mentalización a cargo de psicólogas de la UC. El taller se llevará a cabo en el jardín infantil y tendrá una duración de 5 sesiones de 2 horas cada una, que se realizarán entre los meses de mayo y julio 2014.

El beneficio que usted obtendrá participando en este estudio, es que podrá participar en un taller de apego/mentalización orientado a mejorar la relación con su hijo(a) y a desarrollar habilidades psicoafectivas en sus hijos. Además, los resultados contribuirán al conocimiento científico para favorecer el desarrollo integral de la infancia temprana en nuestro país. Es importante agregar que el presente estudio no contempla ningún tipo de riesgo para los participantes.

Su participación en el estudio es voluntaria y tiene derecho a abandonarlo sin necesidad de dar explicaciones y sin que ello signifique ningún perjuicio para usted o para la educación de su hijo(a) en el establecimiento educacional. Además tiene el derecho a no responder preguntas si así lo desea. La participación del jardín Infantil en este estudio ha sido aprobada por la dirección del mismo.

Toda la información generada por usted o de la evaluación de su hijo(a) será confidencial, para lo cual sus respuestas serán identificadas solamente con un número de folio y ni su nombre ni el de su hijo o hija será escrito en ningún cuestionario o documento. Además, la información será discutida en privado y no será conocida por personas ajenas a la investigación. Las bases de datos del estudio serán conservadas durante un período de 5 años. Los datos obtenidos serán utilizados para fines de investigación, tanto para la generación de documentos científicos como para la docencia especializada. No se entregará información individualizada de los participantes.

Si tiene preguntas respecto a esta investigación, puede contactarse con la investigadora responsable, María Pía Santelices (fono 354-7664). Si tiene preguntas respecto de sus derechos como participante puede contactarse con el Comité de Ética de la Escuela de Psicología de la P. Universidad Católica de Chile, E-mail comite.etica.psicologia@uc.cl, Fono 2354-5883.

Declaro que he leído el presente documento, se me ha explicado en que consiste esta investigación y mi participación en el mismo, he tenido la posibilidad de aclarar mis dudas y tomo libremente la decisión de participar en el estudio. Además se me ha dado entrega de un duplicado firmado de este documento.

Acepto participar en el presente estudio

_____ _____

(Nombre) **(Firma)**

_____ **Fecha:** _____

(Nombre de su hijo o hija)

Nombre del investigador **(Firma)**

APPENDIX 4. Sociodemographic questionnaire

PROYECTO FONDECYT 1130786 Nº FOLIO

CUESTIONARIO SOCIODEMOGRÁFICO

Nombre niño		Fecha aplicación	
Nombre persona que responde		Parentesco con el niño	

1. Edad ingreso del niño(a) asistió a sala cuna : _____
2. Edad de ingreso al jardín infantil : _____
3. Edad de ingreso a este jardín : _____
4. Horas semanales que pasa el niño(a) en el jardín : _____

I. ANTECEDENTES PERSONALES:

Fecha de Nacimiento: _____
Nacionalidad: _____
Estado Civil:
_____Casado/a
_____Conviviente
_____Soltero/a
_____Separado/a
_____Viudo/a

II. ANTECEDENTES DE LA FAMILIA:

1. Número personas que viven en la casa (incluyendo al niño) _____

Anote la información correspondiente para todas las personas que viven en la casa con el niño(a):

Parentesco con el niño(a)	Edad	Parentesco con el niño(a)	Edad
1.		7.	
2.		8.	
3.		9.	
4.		10.	
5.		11.	
6.		12.	

3. Si la madre del niño(a) no vive en la casa, ¿Cuál es el tipo de contacto que tiene con el niño(a)?
_____ Diario _____ algunos días a la semana _____ algunos días al mes
_____ Algunos días al año _____ no hay contacto _____ NO APLICA

4. Si el padre del niño(a) no vive en la casa, ¿Cuál es el tipo de contacto que tiene con el niño(a)?
_____ Diario _____ algunos días a la semana _____ algunos días al mes
_____ Algunos días al año _____ no hay contacto _____ NO APLICA

Situación ocupacional (Marque con una X solo una opción para cada persona):

	Madre	Padre	Otro adulto	
0.	____	____	____	Cesante, no trabaja, dueña de casa
1.	____	____	____	Estudia
2.	____	____	____	Trabaja

Nivel ocupacional (Se refiere a su trabajo u ocupación principal. Marque con una X sólo una opción para cada persona, si tiene dudas, consulte con el aplicador). **Rellene sólo si marcó la opción 3 "Trabaja"**:

	Madre	Padre	Otro adulto	
0.	____	____	____	No lo sabe
1.	____	____	____	Trabajos menores ocasionales e informales (lavado, aseo, servicio doméstico ocasional, "pololos", cuidador de autos, chofer, junior).
2.	____	____	____	Oficio menor, obrero no calificado, jornalero, servicio doméstico con contrato, guardia, carpintero.
3.	____	____	____	Obrero calificado, capataz, micro empresario (kiosco, taxi, comercio menor, ambulante), operador de alimentos, manipulador
4.	____	____	____	Empleado administrativo medio y bajo, vendedor, secretaria, jefe de sección. Técnico especializado. Profesional independiente de carreras técnicas (contador, analista de sistemas, diseñador, músico). Profesor Primario o Secundario.
5.	____	____	____	Ejecutivo medio (gerente, sub-gerente), gerente general de empresa media o pequeña. Profesional independiente de carreras tradicionales (abogado, médico, arquitecto, ingeniero, agrónomo).
6.	____	____	____	Alto ejecutivo (gerente general) de empresa grande. Directores de grandes empresas. Empresarios propietarios de empresas medianas y grandes. Profesionales independientes de gran prestigio.

Su **principal actividad laboral** es: (Marque sólo una opción para cada persona)

	Madre	Padre	Otro adulto	
0.	____	____	____	No trabaja
1.	____	____	____	Fuera del hogar
2.	____	____	____	Dentro del hogar

Su **jornada laboral o de estudio** es: (Marque sólo una opción para cada persona)

	Madre	Padre	Otro adulto	
0.	____	____	____	No trabaja ni estudia
1.	____	____	____	Part time, por horas, o menos de 15 horas semanales.
2.	____	____	____	Media jornada (entre 15 y 34 horas semanales).
3.	____	____	____	Completa (35 horas o más).

III. ANTECEDENTES DEL NIÑO(A)

¿Existe algún antecedente del niño que sea relevante?

_____
_____
_____
_____
_____

5. ¿Quién está a cargo del niño(a) la mayor parte del tiempo (2 a 3 horas diarias)?

6. ¿Existe **otra** persona o personas a cargo del cuidado diario del niño(a) (alimentación, cuidado durante enfermedad, etc.), ¿cuáles?

7. ¿Hay otras personas relevantes para el niño(a) que no vivan en el hogar y que tengan contacto frecuente con él o ella? (especifique cuántas personas, y su parentesco o relación con el niño(a))

	Padre	**Madre**	**Adulto principal a cargo del niño(a):** _____ (complete, si no es madre o padre)
Nombre			
Edad			
Nacionalidad			

Nivel educacional (marque con una X el máximo nivel educacional alcanzado por cada persona):

	Madre	Padre	Otro adulto	
0.	____	____	____	No lo sabe
1.	____	____	____	Educación básica incompleta (menor a 8vo básico)
2.	____	____	____	Educación básica completa (8vo básico aprobado)
3.	____	____	____	Educación media o media técnica incompleta (menor a 4to medio)
4.	____	____	____	Educación media o media técnica completa. Educación técnica incompleta.
5.	____	____	____	Educación universitaria, incompleta. Educación técnica completa.
6.	____	____	____	Educación universitaria completa.
7.	____	____	____	Educación de Post Grado (Master, Doctor o equivalente).

APPENDIX 5. Beck Depression Inventory

ID Participante	
Fecha	

BDI

En este cuestionario aparecen varios grupos de afirmaciones. Por favor, lea con atención cada una. A continuación, señale cuál de las afirmaciones de cada grupo describe mejor cómo se ha sentido **DURANTE ESTA ÚLTIMA SEMANA, INCLUIDO EL DIA HOY.** Rodee con un círculo el número que está a la izquierda de la afirmación que haya elegido. Si dentro de un mismo grupo, hay más de una afirmación que considere aplicable a su caso, puede marcarla también. **Asegúrese de leer todas las afirmaciones dentro de cada grupo antes de efectuar la elección.**

A	F
0. No me siento triste 1. Me siento triste 2. Me siento triste continuamente y no puedo dejar de estarlo 3. Ya no puedo soportar esta pena	0. No siento que esté siendo castigado/a 1. Me siento como si fuese a ser castigado/o 2. Siento que me están castigando o que me castigarán 3. Siento que merezco ser castigado/a
B	**G**
0. No me siento pesimista, ni creo que las cosas me vayan a salir mal 1. Me siento desanimado/a cuando pienso en el futuro 2. Creo que nunca me recuperaré de mis penas 3. Ya no espero nada bueno de la vida, esto no tiene remedio	0. No estoy decepcionado de mí mismo/a. 1. Estoy decepcionado de mí mismo/a. 2. Estoy muy descontento/a conmigo mismo/a 3. Me odio, me desprecio
C	**H**
0. No me considero fracasado/a 1. Creo que he tenido más fracasos que la mayoría de la gente 2. Cuando miro hacia atrás, sólo veo fracaso tras fracaso 3. Me siento una persona totalmente fracasada	0. No creo ser peor que otras personas 1. Me critico mucho por mis debilidades y errores 2. Continuamente me culpo de todo lo que va mal 3. Siento que tengo muchos y muy graves defectos
D	**I**
0. Las cosas me satisfacen tanto como antes 1. No disfruto de las cosas tanto como antes 2. Ya nada me llena 3. Estoy harto/a de todo	0. No tengo pensamientos de hacerme daño 1. Tengo pensamientos de hacerme daño, pero no llegaría a hacerlo 2. Siento que estaría mejor muerto/a o que mi familia estaría mejor si yo me muriera 3. Me mataría si pudiera
E	**J**
0. No me siento culpable 1. Me siento culpable en bastantes ocasiones. 2. Me siento culpable en la mayoría de las ocasiones. 3. Todo el tiempo me siento una persona mala y despreciable	0. No lloro más de lo habitual 1. Ahora lloro más de lo normal 2. Ahora lloro continuamente, no puedo evitarlo 3. Antes podía llorar, ahora no lloro aunque quisiera

APPENDIX 6. Childhood Trauma Questionnaire

CTQ [1]

Por favor indique con una cruz la opción que se aplica más a su experiencia.

Mientras iba creciendo...

	Nunca	Rara vez	Algunas	Frecuentemente	Muy
1. No tenía suficiente para comer					
2. Yo sabía que había alguien para cuidarme y					
3. Algunas personas de mi familia me decían					
4. Mis padres estaban demasiado borrachos o					
5. Había alguien en mi familia que me ayudaba a					
6. Tenía que usar ropa sucia					
7. Me sentía amado/a					
8. Alguna vez pensé que mis padres desearon					
9. Alguna o algunas personas de mi familia me pegaron tan fuerte que tuve que ver un					
10. No hubo nada que haya querido cambiar de					
11. Algunas personas de mi familia me pegaban/golpeaban tan fuerte que me					
12. Era castigado con un cinturón, una palo, un					
13. Las personas en mi familia nos cuidábamos lo					
14. Algunas personas de mi familia me decían					
15. Yo creo que fui maltratado físicamente					
16. Tuve una infancia perfecta					
17. Fui tan fuertemente golpeado/a por alguien de mi familia que otras personas, como un					
18. Yo sentía que alguien en mi familia me odiaba					
19. Las personas en mi familia se sentían					
20. Alguien intentó tocarme en una forma sexual,					
21. Alguien me amenazó con hacerme daño o decir mentiras acerca de mí a menos que yo					
22. Yo tenía la mejor familia del mundo.					
23. Alguien intentó que yo hiciera cosas sexuales					
24. Alguien me acosaba /incomodaba					
25. Yo creo que fui maltratado emocionalmente					
26. Había alguien para llevarme al doctor si lo necesitaba					
27. Yo creo que fui sexualmente abusado/a					
28. Mi familia era una fuente de fuerza y apoyo.					

[1]Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Zule, W. (2003). Development and validation of a brief screening version ofthe childhood trauma questionnaire. *Child Abuse & Neglect, 27*(2), 169-190. doi: 10.1016/S0145-2134(02)00541-0 Adaptado para Chile por Leighton,

APENDIX 7. AGES AND STAGES QUESTIONNAIRE-SOCIO-EMOTIONAL SCALE

Edades y Etapas: Un Cuestionario Completado por los Padres para Evaluar a los Niños*
Segunda Edición
Por **Diane Bricker** y **Jane Squires**
con la ayuda de ***Linda Mounts, LaWanda Potter, Robert Nickel, Elizabeth Twombly, y Jane Farrell***

36 Meses • 3 Años Cuestionario

Lo que sigue a continuación son unas preguntas sobre diferentes actividades que los niños hacen. Puede ser que su niño/a ya haya realizado algunas y todavía no haya realizado otras. Después de leer cada cosa, marque la respuesta que indique lo que su niño/a ha hecho en el pasado o lo que hace ahora.

Cosas Importantes que Recordar:

- ☑ Le rogamos que intente cada actividad individualmente con su niño/a antes de contestar las preguntas.
- ☑ Trate de que al llenar este cuestionario sea un juego que es divertido para usted y su niño/a.
- ☑ Asegúrese de que su niño/a ha descansado, que ha comido y que viene listo para jugar.
- ☑ Por favor devuelva este cuestionario antes del día: _____.
- ☑ Si tiene alguna pregunta o preocupación acerca de su niño/a o acerca de este cuestionario, por favor llame a: _____.
- ☑ Espere recibir otro cuestionario en _____ meses.

*Translated from the English:
Ages & Stages Questionnaires®: A Parent-Completed, Child-Monitoring System, Second Edition, Bricker et al.

ASQ™

Edades y Etapas: Un Cuestionario Completado por los Padres para Evaluar a los Niños*
Segunda Edición
Por **Diane Bricker** y **Jane Squires**
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36 Meses • 3 Años Cuestionario

Por favor da la siguiente información.

Nombre del niño/a: _____

Fecha de nacimiento del niño/a: _____

Día de hoy: _____

Persona llenando este cuestionario: _____

¿Cuál es su relación con el niño/a? _____

Su teléfono: _____

Su dirección (para correspondencia): _____

_____

Ciudad: _____

Estado: _____ Código postal: _____

Haga una lista de cualquiera otra persona que le asista en el llenar de este cuestionario:

_____

Programa de administración/proveedor: _____

*Translated from the English:
Ages & Stages Questionnaires®: A Parent-Completed, Child-Monitoring System. Second Edition. Bricker et al.

ASQ™

Por favor lea cada una de las preguntas con cuidado y 1. Marque el cuadro ❑ que describa mejor el comportamiento de su niño/a *y* 2. Marque el círculo ❍ si este comportamiento le preocupa	LA MAYORÍA DE LAS VECES	ALGUNAS VECES	RARA VEZ O NUNCA	MARQUE SI ESTO ES UNA PRE-OCUPACIÓN
1. Cuando usted le habla a su niña, ¿le mira a usted?	❑ c	❑ v	❑ x	❍
2. ¿A su niño le gusta que lo abracen o lo acurruquen? 	❑ c	❑ v	❑ x	❍
3. ¿Habla y/o juega su niña con adultos que ella conoce bien?	❑ c	❑ v	❑ x	❍
4. ¿Se apega su niño a usted más de lo que usted espera? 	❑ x	❑ v	❑ c	❍
5. Cuando su niña está alterada, ¿se puede calmar dentro de 15 minutos?	❑ c	❑ v	❑ x	❍
6. ¿Parece ser su niño demasiado amistoso con los desconocidos?	❑ x	❑ v	❑ c	❍
7. ¿Se puede calmar por sí misma su niña después de períodos de actividad agitada?	❑ c	❑ v	❑ x	❍
8. ¿Puede pasar su niño de una actividad a otra sin mucha dificultad, como de la hora de jugar a la hora de comida?	❑ c	❑ v	❑ x	❍
9. ¿Parece ser contenta su niña?	❑ c	❑ v	❑ x	❍
			TOTAL EN LA PÁGINA ___	

	LA MAYORÍA DE LAS VECES	ALGUNAS VECES	RARA VEZ O NUNCA	MARQUE SI ESTO ES UNA PRE-OCUPACIÓN
10. ¿A su niño le interesan las cosas alrededor de él, como personas, juguetes y comida?	☐ C	☐ V	☐ X	○
11. ¿Hace su niña lo que usted le pide?	☐ C	☐ V	☐ X	○
12. ¿Parece ser su niña más activa que otros niños de su misma edad? 	☐ X	☐ V	☐ C	○
13. ¿Puede permanecer su niña con actividades que le gustan por lo menos 5 minutos (no incluye mirando la televisión)?	☐ C	☐ V	☐ X	○
14. ¿Usted y su niño disfrutan de la hora de comida juntos?	☐ C	☐ V	☐ X	○
15. ¿Tiene su niña problemas con la alimentación, como llenarse la boca, vomitar, comer cosas que no son comida o _____ ? (Usted puede anotar cualquier problema.)	☐ X	☐ V	☐ C	○
16. ¿Duerme su niño por lo menos 8 horas dentro de un período de 24 horas?	☐ C	☐ V	☐ X	○
17. ¿Usa palabras su niña para decirle lo que quiere o necesita?	☐ C	☐ V	☐ X	○

TOTAL EN LA PÁGINA ___

		LA MAYORÍA DE LAS VECES	ALGUNAS VECES	RARA VEZ O NUNCA	MARQUE SI ESTO ES UNA PRE-OCUPACIÓN
18. ¿Sigue su niño las instrucciones de rutina? Por ejemplo, ¿viene a la mesa o ayuda a recoger sus juguetes cuando se lo pide?		❑ c	❑ v	❑ x	❍
19. ¿Llora, grita o hace berrinche su niño durante mucho rato?		❑ x	❑ v	❑ c	❍
20. ¿Lo/la busca con la mirada su niño para asegurarse que usted está cerca cuando él está explorando lugares nuevos, como un parque o la casa de un amigo?		❑ c	❑ v	❑ x	❍
21. ¿Hace su niña las cosas una y otra vez y parece incapaz de dejar de hacerlo? Unos ejemplos son mecerse, manotear, dar vueltas o _____ . (Usted puede anotar cualquier otra cosa.)		❑ x	❑ v	❑ c	❍
22. ¿Se lastima su niño a propósito?		❑ x	❑ v	❑ c	❍
23. ¿Se mantiene alejada su niña de los peligros, como el fuego o los carros en movimiento?		❑ c	❑ v	❑ x	❍
24. ¿Destruye o daña las cosas a propósito su niño?		❑ x	❑ v	❑ c	❍
25. ¿Usa palabras su niña para describir sus sentimientos y los sentimientos de otros, por ejemplo, "Estoy contenta", "No me gusta eso" o "Ella está triste"?		❑ c	❑ v	❑ x	❍

TOTAL EN LA PÁGINA ___

	LA MAYORÍA DE LAS VECES	ALGUNAS VECES	RARA VEZ O NUNCA	MARQUE SI ESTO ES UNA PRE-OCUPACIÓN
26. ¿Puede nombrar a un amigo su niño?	☐ c	☐ v	☐ x	○
27. ¿A *los otros* niños les gusta jugar con su niña?	☐ c	☐ v	☐ x	○
28. ¿A *su niño* le gusta jugar con otros niños?	☐ c	☐ v	☐ x	○
29. ¿Intenta su niña lastimar a otros niños, adultos o animales (por ejemplo, pateando o mordiendo)?	☐ x	☐ v	☐ c	○
30. ¿Muestra su niño interés en o conocimiento de lenguaje sexual y actividad sexual?	☐ x	☐ v	☐ c	○
31. ¿Ha expresado alguien preocupación por el comportamiento de su niña? Si usted marcó "algunas veces" o "la mayoría de las veces", por favor explique:	☐ x	☐ v	☐ c	○

_____

_____

_____

_____

32. ¿Tiene usted preocupaciones por las costumbres de comer, dormir o ir al baño de su niño? Si así es, por favor explique:

_____

_____

_____

_____

TOTAL EN LA PÁGINA ___

33. ¿Hay algo que le preocupa de su niña? Si así es, por favor explique:

34. ¿Cuáles son las cosas que disfruta más de su niño?

APENDIX 8. ETM- EVALUATION OF THEORY OF MIND

Tarea 1. Pretender versus realidad.

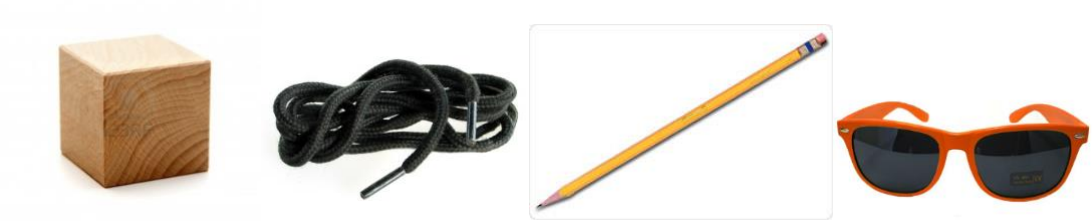
Instrucciones

Ponga los cuatro objetos sobre la mesa y muéstreselos al niño(a). "Mira, aquí tenemos cuatro cosas con las cuales vamos a jugar" (ubíquelos a un costado).

e. Tome el **cordel** y muévalo simulando que es una culebra o serpiente. Hágale al niño las dos preguntas.
f. Tome el **cubo** y muévalo simulando que es un auto. Hágale al niño las dos preguntas.
g. Tome el **lápiz** y muévalo simulando que es un martillo. Puede por ejemplo realizar la mímica en la que se golpee un clavo imaginario. Hágale al niño las dos preguntas.
h. Tome los **lentes** y úselo simulando que es un teléfono. Hágale al niño las dos preguntas.

Preguntas

3. ¿A qué estoy jugando que es esto?
4. ¿Y qué es realmente?



Tarea 2. Toma de perspectiva.

Instrucciones

El evaluador le muestra al niño(a) una tarjeta con el dibujo de un gato a un lado, y de un pájaro al otro lado, y le pide que identifique a ambos animales. Luego sostiene la tarjeta frente a la cara del niño, de modo que él éste observando al gato, y el evaluador al pájaro, y le pide que diga qué animal está viendo él o ella, y qué animal está viendo el evaluador.

Luego da vuelta la tarjeta y repite las mismas preguntas. Se repite el procedimiento hasta completar 4 secuencias de preguntas con la tarjeta.

Esta tarjeta se guarda y el evaluador pone sobre la mesa, a mitad de distancia entre él y el niño(a) una lámina con el dibujo de un perro, orientado hacia la perspectiva del niño. El evaluador muestra y apunta en la lámina la cola del perro, su cabeza, sus patas y su cuerpo. Luego pone encima una hoja blanca de manera perpendicular a la mesa (formando un ángulo de 90º), de modo de dividir la figura del perro en dos partes (superior e inferior). Entonces el evaluador le pregunta al niño sobre qué parte del perro él puede ver: "Qué parte o partes del perro puedo ver yo". Finalmente rota la lámina en 180° y le vuelve a preguntar lo mismo.

Se puntúan las 4 primeras preguntas así como las siguientes dos.

Tarea 3. Inferencia de deseos por reconocimiento de la mirada.

Instrucciones

"Ahora te voy a mostrar un dibujo de un niño que se llama Andrés. Míralo con atención. Aquí hay cuatro cosas, y una de ellas es la que Andrés quiere. ¿Qué es lo que quiere Andrés?". Mostrar al niño(a) la lámina y hacerle las preguntas correspondientes. Tener cuidado de no señalar ninguno de los objetos que aparecen en la lámina.

Preguntas

3. ¿Qué quiere Andrés?
4. ¿Por qué? O ¿Cómo sabes que quiere …….?

Tarea 4. Contenido inesperado.

Instrucciones

Mostrar al niño(a) una caja de chocolates y preguntarle qué cree que hay adentro. Una vez que responda, pedirle que abra la caja (o ayudarle a abrirla) y que vea qué hay adentro (lápices). Hacer las preguntas 1 y 2 (qué hay adentro, y qué pensaba él o ella que había adentro). Si responde bien a ambas preguntas, seguir con: "Y si ahora entrara un niño llamado Andrés (o una niña llamada Andrea), y viera esta caja cerrada, qué pensaría que hay adentro?". Antes de formular esta pregunta, se debe tapar nuevamente la caja.

Preguntas

6. ¿Qué crees que hay dentro de esta caja?
7. (luego de abrirla) ¿Qué hay realmente dentro de la caja? Y antes de abrirla, ¿Qué pensabas tú que había?

Continuar en caso que el niño(a) responda bien a las dos preguntas anteriores:

8. Si ahora entrara un niño llamado Andrés (o una niña llamada Andrea), y viera esta caja cerrada, ¿Qué crees que diría que hay adentro?¿Por qué?
9. ¿Y qué es lo que hay realmente dentro de la caja?
10. (en caso que el niño o niña haya respondido que el otro niño(a) hubiera dicho "chocolates"): Y por qué él (ella) dijo "chocolates" si lo que hay adentro son lápices?"

Farkas, Ch., Santelices, M. & Dacaret, Ch. (2013). *"E.T.M.: Instrumento para evaluar Teoría de la mente en niños preescolares"*. Manuscrito remitido para publicación.

Descripción categorías mentales y no mentales evaluadas en el discurso de los adultos para determinar su nivel de mentalización

Categorías	Descripción	Ejemplos
NO MENTALES		
Lenguaje Causal/ Referencias/ Asociaciones	El adulto explica por qué algo sucede, Relación Causa-Efecto, o hace referencia a asociaciones o secuencias entre dos eventos (se explicita un antes y un después). Hay dos eventos, asociados en el tiempo.	"Él se cayó **porque** no miró el camino". "La madre lo castigó **porque** no se comió toda la comida" "¿**Por qué** él se cayó?" "Él se comió toda la comida y **después** se fue a acostar"
Lenguaje Factual	Cuando el adulto hace referencia a algún hecho, como la función de un objeto o un hecho de la naturaleza.	"La madre de Andrés le dio una naranja para almorzar, y la naranja es un tipo de fruta, que crece en los árboles". "Las gallinas ponen huevos".
Vínculo con la vida del niño(a)	Cuando el adulto hace un vínculo entre lo que ocurre en la historia y algo de la vida del niño(a).	"La madre de Andrés lo llamó a almorzar, igual como yo te llamé a almorzar hoy día".
Estados físicos	El adulto menciona: a) Estados físicos como tener frío, estar hambriento, tener sueño. b) Expresiones físicas del cuerpo, como llorar, sonreír o reírse.	Estados físicos: Enfermo, duele, dolor, dormido, somnoliento, cansado, hambriento, sediento, equilibrarse, estar tranquilo, estar calmado, estar inquieto, estar aburrido, estar entretenido. Tener sueño. Expresiones físicas: llorar, sonreír, reírse.
MENTALES		
Deseos, intenciones y/o preferencias	El adulto usa palabras o frases que hacen referencia a lo que las personas quieren o desean o les gusta.	Desear o gustar algo, preferir, querer algo, amar (referido a una cosa). Un juguete favorito o preferido.
Emociones y sentimientos	El adulto explícitamente hace referencia a sentimientos o emociones, o menciona la palabra "sentimientos".	Feliz, triste, amar (referido a una persona o animal), infeliz, sentir (referido a emociones), enojado, gruñón. Tener cara triste o de pena, cara de sorpresa, sorprenderse.
Pensar y Saber / cognición	El adulto usa palabras que se refieren a procesos mentales/cognitivos	"¿Tú **sabes** lo que es esto?", "Ella **sabe** que eso iba a pasar". "Ellos están **concentrados**". "Déjame **pensar**". "Yo **creo** que es encantador". "**Recuerdas** cuando lo hicimos la semana pasada?" "Yo **entiendo**". "Ponme **atención**".
Atributos cognitivos y/o emocionales	Cuando el adulto hace referencia a características propias del niño(a), de sí mismo o de los personajes del cuento que se relacionan con descriptores de características de personalidad o maneras de ser (emociones o cognición).	Ser curioso, cariñoso, inteligente, ser inquieto, etc. "Es tan mal genio" "Él era tan **curioso** que decidió…."

Farkas, Ch., Carvacho, C., Santelices, P., Mahias, P., Badilla, G., Valloton, C. & Himmel, E. (2012a). *Medición de la mentalización del adulto significativo en interacción con niños de 0 a 48 meses: Desarrollo y estudio piloto.* Manuscrito sometido a publicación.

Hoja de respuestas de "Instrumento de Medición de la Mentalización del Adulto Significativo en Interacción con el niño de 0 a 48 meses"

TRANSCRIPCIÓN MENTALIZACIÓN: HOJA DE RESPUESTA

Folio		Nombre codificador	
Edad niño		Fecha codificación	
Adulto que contesta			

	Historia 1		Historia 2		Cat. Presente Historia 1-2 (A)
	Ausencia/presencia (0 – 1)	Número menciones	Ausencia/presencia (0 – 1)	Número menciones	
Número de palabras					
N lenguaje causal					
N lenguaje factual					
N vínculos					
N estados físicos					
N deseos					
N cognición					
N emoción					
N atributos					
Total categorías (B)					

Tabla resumen:

Cantidad de categorías diferentes, presentes en el cuento 1 o el 2 (Columna A).		PROMEDIO de categorías mencionadas entre los cuentos 1 y 2 (puntaje 1-8) (Fila B)	
Suma total categorías		Promedio total categorías	

Indique con una **X** si en el cuento 1 **O** en el cuento 2 se encuentran presentes las siguientes categorías:

Niños de 0 a 23 meses:		Niños de 24 a 48 meses:	
Lenguaje causal		Lenguaje causal	
Deseos		Cognición	
		Emoción	

Farkas, Ch., Carvacho, C., Santelices, P., Mahias, P., Badilla, G., Valloton, C. & Himmel, E. (2012a). *Medición de la mentalización del adulto significativo en interacción con niños de 0 a 48 meses: Desarrollo y estudio piloto.* Manuscrito sometido a publicación.

APENDIX 9. RELIABILITY SCALES PER INSTRUMENTS

1. Child Trauma Questionnaire:

   Complete scale= .89

   Subscales:
   Physical abuse = .85
   Sexual abuse = .92
   Emotional abuse = .86
   Physical negligence = .49
   Emotional negligence = .82

2. Beck Depression Inventory = .85

3. Experience in Close Relationship Scale

   Complete scale= .79

   Subscales:
   Anxiety scale = .74
Avoidance scale = .66

4. Parental Reflective Functioning Questionnaire

   Subscales:

   Pre-mentalizing modes scale (PM)= .66
   Interest and curiosity of mental state scale (IC)= .76
   Certainty of mental states scale (CM)= .64

5. Evaluation of Theory of Mind:

   Complete scale= .65
6. Ages and Stages Questionnaire-SE

   Complete scale= .73