

**The Development, Psychometric Analyses and Correlates of a
New Self-Report Measure on Disorganization and Role Reversal**

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Thesis submitted to
the Faculty of Graduate and Postdoctoral Studies
in partial fulfillment of the requirements
for the PhD in Clinical Psychology

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The Tree

*Mother below is weeping
 weeping
 weeping*

Thus I knew her

*Once, stretched out on her lap
 as now on a dead tree
I learned to make her smile
 to stem her tears
 to undo her guilt
 to cure her inward death*

To enliven her was my living....

~ D. Winnicott (as quoted in F. Robert Rodman, 2003, p. 290)

GENERAL ABSTRACT

There is a void of existing measures assessing young adults' perceptions of childhood disorganized and controlling attachment. The current research project aimed to fill this gap by developing a convenient self-report measure, the *Childhood Disorganization and Role Reversal Scale* (CDRR: Meier & Bureau, 2012), which comprehensively assesses for the complexity of those attachment constructs in young adults. The CDRR is a novel measure as it assesses the unique attachment representations of mother-child and father-child relationships. This research project had three main objectives. The first objective was the development of the CDRR. It was guided by the recommendations of various scholars in scale development using classical measurement theory. The items of the CDRR were informed by the attachment and family systems literature. The factor structure of the CDRR was determined through conducting principal components analyses (PCA). The second objective, constituting Study 1, aimed to assess the psychometric properties of the CDRR, namely, its structural stability, internal reliability, temporal reliability, convergent and discriminant validity and criterion-related validity. Lastly, the third objective, involving Study 2, sought to provide further support for the validity of the CDRR. It accomplished this goal by exploring the associations of the CDRR to psychological outcomes consistent with the attachment literature, namely, problems in the separation-individuation process, unresolved feelings towards caregiver, and current psychological well-being.

The results of the PCA revealed a four-factor structure for both CDRR parent versions. The CDRR mother version includes the Disorganization/Punitive, Mutual Hostility, Affective Caregiving, and Appropriate Boundaries scales, while the CDRR father version includes the Disorganization, Affective Caregiving, Appropriate Boundaries, and Punitive

scales. Overall, support was provided for the psychometric properties of the CDRR. The CDRR scales demonstrated adequate structural stability (confirmatory factor analyses), internal consistency, temporal reliability and various forms of validity. Generally, the disorganized and controlling scales were positively related to problematic separation-individuation, unresolved feelings towards caregivers and psychological problems. It is hoped the CDRR will assist researchers in broadening the understanding of psychological outcomes of disorganized and controlling attachment representations in young adulthood.

ACKNOWLEDGEMENTS

I would like to express my gratitude to the people that have made this research project possible. I feel privileged in having been able to work with my thesis supervisor, Dr. Jean François Bureau. My dissertation is marked by his extensive knowledge on attachment theory, our insightful conversations (as well as humorous ones), and his on-going support. I also would like to thank my thesis committee members, Drs. Marie-France Lafontaine, Cristina Atance and Elisa Romano, for their guidance, feedback and time dedicated to this project. Dr. Veronika Huta, thank you for “going the extra mile” in lending your statistical knowledge. You have allowed me to feel more confident as a researcher.

I express my appreciation to all the participants that took the time to partake in my study and to be vulnerable and open in the hopes of making a difference (whether it was to advance psychological knowledge, improve measures on mental health, or to ease the nerves of a graduate student). Thank you to my research volunteers, Sharlini Yogasingam and Natalie Ho, for the time that you have spent on this project and for your meticulous work. I am indebted to my external funding from the Joseph-Armand Bombardier CGS Doctoral Scholarship and the Ontario Graduate Scholarship.

The effort placed on this research project is fortified by my friends, colleagues, and labmates’ encouragement and support. Thank you Sophie, Reem and Jess for being my “thesis buddies”, “croissant buddies”, and “baking buddies”. The final stretch has been a lot more manageable knowing that we are all in this together! I will treasure our memories over these years.

Lastly, I would like to thank my parents for fostering my curiosity as a child, this is surely related to my passion for research. I am appreciative of your unconditional support,

your confidence in me and our enriching discussions on psychology. Lastly, thank you Peter for being my rock, believing in me, especially in difficult moments, and strengthening my courage with pasta and chocolate!

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CHAPTER 1:
General Introduction

General Introduction

Attachment theory is a valuable theoretical framework to understand the influence that the parent-child relationship has on a child's mental health. Although attachment insecurity in childhood has been related to concurrent problems and subsequent negative outcomes in adulthood (see Deklyen & Greenberg, 2008; Dozier, Stovall-McClough & Albus, 2008), there is growing evidence that childhood disorganized attachment is a key predictor of negative outcomes, such as internalizing and externalizing problems (Lyons-Ruth & Jacobvitz, 2008). Disorganized attachment is described as a child displaying disoriented or contradictory behaviours in the presence of a parental figure (Main & Solomon, 1990). It has been shown that infant disorganization may develop into a role reversed or controlling pattern of attachment, manifested in caregiving or punitive behaviours during the preschool years, labelled as "controlling/caregiving" and "controlling/punitive", respectively (Main & Cassidy, 1988; Wartner, Grossman, Fremmer-Bombik, & Suess, 1994). Bowlby (1969/1982) theorized that child psychopathology can result from long-term role reversal between a child or adolescent and their parent. Bowlby (1973) theorized that such a reversal of roles emerges when the parent, rather than the child, is over-dependent within the dyad and seeks emotional support from their child. Corresponding to Bowlby's theoretical description, the attachment literature describes controlling/caregiving attachment as the abdication of a child's own attachment needs in order to respond to the emotional or physical needs of their parents, such as cheering them up or providing them with emotional support (see Moss, Bureau, St-Laurent, & Tarabulsy, 2011). Controlling/punitive attachment, which is another form of role reversal identified by attachment researchers but not formally theorized by Bowlby, consists of a child controlling

interactions with their parents through being hostile and demeaning towards them (see Moss et al., 2011). Liotti (2004) theorized that the attachment system is disrupted in children who are disorganized and that other motivational systems become activated, leading to a controlling attachment pattern. For caregiving children, the caregiving system becomes activated in part due to parental behaviours that elicit caring from their child. For punitive children, the social-ranking system is activated to foster dominance within the relationship with their parents (Sloman, Atkinson, Milligan & Liotti, 2002).

Consistent with Bowlby's theory (1953; 1969/1982), it is expected that role reversal and disorganization in childhood contributes to current and ongoing maladaptation as the development of insecure internal working models impact individuals' view of self and others throughout their life (Bowlby, 1969/1982, 1973, 1980; Collins, Guichard, Ford & Feeney, 2004; Collins & Read, 1994). The attachment literature has found associations between internalizing and/or externalizing problems in disorganized and controlling/punitive children, especially in combination with disorganized behaviours (Bureau, Easterbrooks & Lyons-Ruth, 2009; Moss, Cyr & Dubois-Comtois, 2004; O'Connor, Bureau, McCartney, & Lyons-Ruth, 2011). However, studies have been inconsistent in finding associations between caregiving behaviours in childhood and problems in social adaptation (Bureau et al., 2009; Moss, Cyr & Dubois-Comtois, 2004; O'Connor et al., 2011). For instance, one study found that 6-year old children identified as controlling/caregiving displayed higher levels of internalizing problems than secure children (Moss, Cyr & Dubois-Comtois, 2004), while another study found that controlling/caregiving attachment in 8-year old children was not related to concurrent internalizing and externalizing behaviours (Bureau et al., 2009a).

These inconsistent findings on controlling/caregiving attachment may be due to adults' perceptions (e.g., parents, teachers) that caregiving behaviours are not harmful and leading to the underreporting of these behaviours (O'Connor et al., 2011). Moreover, internal working models of caregiving (or disorganized and punitive) attachment may only emerge in adolescence or young adulthood when there are increased desires to achieve independence from parents, and to develop intimate relationships outside of the family. A failure to appropriately individuate from parents, and build meaningful, and healthy intimate relationships may lead to increased problems in social adaptation during adolescence and young adulthood.

It is assumed that due to a lack of a convenient measure that assesses for disorganized and role reversed attachment representations in young adults, the association between these representations and psychological problems have not been readily investigated. Attachment representations or internal working models (Bowlby, 1969/1982, 1973, 1980) are developed in early childhood and are based on a caregiver's availability and responsiveness to their child's attachment needs across repeated interactions and caregiver's overt and covert discussions of emotions with their child (Bowlby, 1973, 1988; Bretherton, 1985). Internal working models provide a systemic manner in which an individual can process attachment-related information (Main, Kaplan & Cassidy, 1985). A central notion of attachment theory is that internal working models represent an individual's attachment history in childhood (Collins & Read, 1994). However, internal working models can change with new attachment experiences in later childhood and adolescence (Bowlby, 1973, 1988; Bretherton, 1990; Oppenheim & Waters, 1995).

The aim of the current research project is to develop a new scale, the *Childhood Disorganization and Role Reversal Scale* (CDRR), and to assess its psychometric properties. The CDRR aims to fill a void in the attachment literature by measuring young adults' current perceptions of childhood disorganized and controlling attachment. This chapter begins with a brief summary of attachment theory, followed by an overview of disorganized and controlling attachment, and ending with a brief presentation of the parentification literature.

Attachment Theory

A major tenet of attachment theory is that infants have innate needs and behavioural instincts to form a bond with their parental figures in order to obtain safety, security and comfort when emotionally or physically distressed (Bowlby, 1969/1982). It is theorized that children's attachment strategies and attachment-related beliefs about themselves, others, and the world are influenced by their parents' availability and responsiveness to their attachment cues (Bowlby, 1969/1982, 1973, 1980; Collins et al., 2004; Collins & Read, 1994). Expanding on Bowlby's work, Ainsworth, Blehar, Waters, and Wall (1978) developed an attachment classification system that identified three attachment styles in infants: secure, insecure-resistant (anxious) and insecure-avoidant (avoidant). One noteworthy contribution in the measurement of infant attachment is Main and Solomon's (1990) modification of the Ainsworth attachment classification system by including a fourth attachment classification labelled "Disorganized/disoriented (D)". They found that previous researchers "forced" some infants into one of the three traditional attachment categories as their disorientated and/or disorganized behaviours did not "fit" or adhere to these classifications. Unlike the three traditional attachment classifications, the behaviours of D infants lack an apparent goal or purpose in maintaining proximity to their caregiver. Disorientation is defined as a "lack of

orientation to the immediate environment” and disorganization as “an observed contradiction in movement pattern, corresponding to an inferred contradiction in intention or plan” (Main & Solomon, 1990, p.133).

Disorganized attachment. There are two prominent theories on the aetiology of disorganization in infancy. First, Main and Hesse (1990) stated that infant disorganization results from a paradox created when the attachment figure is both the source of the child’s distress and the solution of such distress. The attachment figure distresses their child by exhibiting frightening or frightened behaviours (e.g., “haunted voice”, fearful facial expression, random shift in mental states, dissociating, sharing traumatic information) due to an unresolved trauma. These parental behaviours result in the infant’s attachment system breaking down, as the infant wants to approach their attachment figure for comfort, yet fears that very same person. Moreover, George and Solomon (2008) noted that it is the child’s perception of “failed protection” by their parent (e.g., feeling abandoned) that leaves him/her disorganized, and not the frightening or frightened behaviours per se. This theory has been supported in subsequent research finding a link between maternal unresolved trauma and maternal frightened and/or frightening (FR+) (Abrams, Rifkin, & Hesse, 2006; see Hesse & Main, 2006; Jacobvitz, Leon, & Hazen, 2006; van IJzendoorn, 1995; van IJzendoorn, Schuengel & Bakermans-Kranenburg, 1999), FR+ behaviours and infant disorganization (Abrams et al., 2006; see Hesse & Main, 2006; Lyons-Ruth, Bronfman & Parsons, 1999; Schuengel, Bakermans-Kranenburg, & van IJzendoorn, 1999), as well as maltreatment and childhood disorganization (Cyr, Euser, Bakermans-Kranenburg, & van IJzendoorn, 2010).

Second, Lyons-Ruth and colleagues’ (1999) line of research expanded on Main and Hesse’s theory. Lyons-Ruth and colleagues theorized that infant disorganization may

develop from extreme maternal insensitive behaviour. In their study, infant disorganization was significantly related to maternal disorientation (e.g., mother is frightened by infant, mother displays loss of affect), affective communication errors (e.g., mother displays non-responsive or contradictory cues), negative-intrusive behaviour (e.g., mother teases or grabs infant) and maternal role confusion (e.g., mother speaks in intimate voice to infant). As such, the authors stated that FR+ behaviours might emerge within the context of maternal insensitive caregiving, if extreme and contradictory. This may impact the infant's ability to apply a consistent and effective attachment strategy to reduce their attachment distress (Lyons-Ruth et al., 1999; Lyons-Ruth & Jacobvitz, 2008). Taking these two theories together, it is hypothesized that disorganization may develop when an infant's caregiver frightens them or when their caregiver is unable to lower the activation of their child's attachment system (Cyr et al., 2010).

Fifteen percent of infants in a normative population are identified as disorganized, and this number increases to 25% in low socioeconomic status (SES) samples, and to 48% in maltreated samples (van IJzendoorn, et al., 1999). Numerous studies have linked disorganization in infancy and childhood to externalizing problems in childhood (Lyons-Ruth, Easterbrooks & Cibelli, 1997; Moss, Bureau, Cyr, Mongeau, & St-Laurent, 2004) and to psychopathology in late adolescence and adulthood (Carlson, 1998; Carlson, Egeland & Sroufe, 2009; Deklyen & Greenberg, 2008; Dozier & et al., 2008; Lyons-Ruth, Bureau, Holmes, Easterbrooks & Brooks, 2013; Ogawa, Sroufe, Weinfield, Carlson & Egeland, 1997; Shi, Bureau, Easterbrooks, Zhao & Lyons-Ruth, 2011). Chapter 4 will explore the psychological correlates to disorganized and controlling attachment in greater detail.

Controlling attachment. Longitudinal studies have found that disorganization in infancy generally transforms into a controlling strategy by the end of the preschool period (Main & Cassidy, 1988; Wartner et al., 1994). For instance, approximately 75% of disorganized 3-year old children were identified as controlling at 6 years of age in a Canadian sample (Moss, Cyr, Bureau, Tarabulsy, Dubois-Comtois, 2005). Controlling strategies refer to children's behaviours that have the purpose, intentional or not, to take charge of the interactions with their caregivers, such that these children assume a parent-like role with their caregivers (Main & Cassidy, 1988). With the increasing ability of preschoolers to coordinate their behaviours to achieve attachment-related goals (Bowlby, 1969/1982), it has been hypothesized that preschoolers who were identified as disorganized as infants, develop controlling behaviours to gain more control of their stressful environment, and thereby regulating their own emotional states as they cannot be regulated through the attachment to their caregiver (Solomon, George & De Jong, 1995). Controlling attachment, also referred to as role reversal, consists of two subtypes: controlling/caregiving and controlling/punitive. These subtypes will be described in the following sections. Controlling attachment is known to be maladaptive in children and it has been linked to internalizing and/or externalizing problems (Moss, Cyr & Dubois-Comtois, 2004; O'Connor et al., 2011). With respect to prevalence estimates, in a Canadian sample, 3% of 4-year old children were identified as controlling, and it increased to 13% when the sample was measured two years later (6-years old) (Moss et al., 2005). Similarly, in a large American sample, 4% of 3-year old children were identified as controlling/caregiving, 2% as controlling/punitive, and 8% as controlling/mixed (i.e., caregiving and punitive) (O'Connor et al., 2011).

Controlling/caregiving attachment. Bowlby (1977) introduced the concept of role inversion, or role reversal, and compulsive caregiving. Those concepts involve a child providing care to parents in contrast to receiving care from them. Bowlby (1980) observed that role reversal or compulsive caregiving in childhood emerged in families experiencing parental death, such as a widowed parent confiding in their child, expecting their child to hold not age-appropriate responsibilities, or perceiving their child as a substitute to their deceased spouse. Bowlby (1977, 1980) also theorized that role inversion (i.e., a child holding a parental role) might result in compulsive caregiving (i.e., providing excessive care) in conditions where a parent pressures their child to care for him/her, provides inadequate caregiving, suffers from depression or from a disability, or willingly accepts the care from their child. Following Bowlby's work, numerous researchers have studied this interactional pattern to identify its main behavioural features. The term "controlling/caregiving attachment" has been used interchangeably with "role reversal" and "compulsive caregiving". Of these studies, controlling/caregiving children have been observed to play a supportive role in the emotional lives of their parent, such as acting as their companion, a confidant or a substitute to their spouse (Moss et al., 2011). Researchers have observed that these children have a tendency to be excessively positive with their parents in a non-authentic manner (Main & Cassidy, 1988). Parents of controlling/caregiving children tend to describe their child positively, such as "precocious" and "powerful" (e.g., caregiving, comedian, having supernatural skills) (George & Solomon, 1996).

Bowlby (1969/1982) noted that role reversed children suppress their attachment needs for comfort and protection in order to engage their parents. As such, caregiving children are assumed to regulate their own affect and to ensure their parent's emotional and

physical availability by lowering their parent's distress (Moss et al., 2011; Solomon et al., 1995). Researchers also observed that children's caregiving behaviours are related to reductions in parental reports of distress (Moss, Thibaudeau, Cyr & Rousseau, 2001). Thus, caregiving children have a tendency to be hypervigilant of their parents' needs and they have learned to suppress their own attachment needs in order to improve their parent's emotional well-being, which consequently increases the chance that they will be taken care of by their parents. Related to the concept of controlling/caregiving attachment is the term "parentification" (Boszormenyi-Nagy & Sparks, 1973; Chase, 1999; Jurkovic, 1997; Minuchin, 1974) that comes from family systems theory. The literature on parentification will be presented in the next section to supplement the knowledge base on important features of controlling/caregiving children.

Controlling/punitive attachment. Bowlby (1980) alluded to the concept of controlling/punitive attachment in his case studies, although it was not well integrated into his theory. In one of his case studies, he noted a child feeling resentful from taking care of his/her parent, and another child criticizing his/her parent. Despite these case studies, there still lacks a strong theoretical discussion on the origins of punitive attachment. Children identified with controlling/punitive attachment have been noted to control the interactions with their parents in a hostile, aggressive, humiliating, commanding, and scolding manner (Main & Cassidy, 1988; Moss et al., 2011). Parents describe these children as "wild", combative and confrontational (George & Solomon, 1996). These parents are observed to be in a passive, non-authoritative role (Moss et al., 2011).

To obtain more descriptive information on controlling/punitive attachment, a comprehensive scale on disorganization and controlling attachment will be reviewed. The

Middle Childhood Disorganization and Control scale (MCDC; Bureau, Easterbrooks, Killam, & Lyons-Ruth, 2006) is an observational coding system based on parent-child separation-reunions within a laboratory setting that assesses for controlling/punitive, controlling/caregiving and disorganized behaviours in middle childhood (Bureau, Easterbrooks & Lyons-Ruth, 2009a). The scale was initially developed through clinical observations of parent-child reunions and free play behaviours. The scale provides markers of punitive behaviours towards parents, such as angry outbursts, sarcastic or mocking remarks, active avoidance, rejection, as well as hostile interactions between the parent and child. Thus, controlling/punitive behaviours range from a passive to an active position, such as a child ignoring his/her parents' demands to acting out behaviours. Based on these behavioural features of punitive attachment, one may speculate that punitive children hold negative views and feelings of their parents, such as being frustrated by them and feeling the need to be in control in their relationship with their parents.

Existing Measures of Disorganized and Controlling Attachment

Currently there is only one measure that assesses *both* disorganization and controlling attachment in adolescence and young adulthood, namely, the Goal-Corrected Partnership in Adolescent Coding System (GPACS; Lyons-Ruth, Henninghausen, & Holmes, 2005). It is an observational measure that assesses for controlling behaviours between adolescent-parent dyads. An adolescent-parent reunion and a discussion task concerning a topic of disagreement are coded. The GPACS includes the following classifications: (1) Insecure but Organized profiles (i.e., Deflecting/Minimizing Dyadic strategy; Entangled/Oscillatory Dyadic strategy); (2) Disorganized/Unbalanced Profiles (i.e., Hostile/Capitulating pattern, Leading/Stifled pattern); (3) Controlling-Punitive Adolescent

Stances (i.e., Punitive strategy, Reciprocally Punitive Strategy); (4) Caregiving-Containing Adolescent Stance (i.e., Caregiving strategy, Containing strategy, Mixed Caregiving/Punitive strategy); (5) Disoriented Adolescent Stance; and, (6) Emotionally Unavailable Parental Stance. The GPACS provides a rich source of information beneficial for research and it offers classifications that are clinically relevant. However, as this assessment is time and labour intensive, it may not be a feasible option for clinicians as it requires participation from the youth and his/her parent. An alternative is a self-report measure that would be more time efficient and could provide a more in-depth assessment on the complexity of role reversed and disorganized representations.

The Adult Attachment Interview (AAI: George, Kaplan, & Main, 1985/1996) is another measure that can be used to assess for concepts related to disorganized and controlling attachment in young adults. This is a semi-structured interview that asks participants to recall childhood experiences of their attachment caregivers, and to elaborate on how those experiences have impacted their personality. The AAI is assumed to touch upon the *mental representations* or *states of mind* that are developed from their attachment experiences with their attachment figures (Main et al., 1985). As such, attachment classifications are not based solely on the content of individual's responses during the interview, but more so on the coherency and organization of their narrative, such as providing a balance of positive and negative attachment memories and providing relevant and substantive information (Main, Goldwyn, & Hesse, 2002; Main, Hesse & Goldwyn, 2008). The AAI includes the following state of mind classifications: autonomous, dismissing, preoccupied, and unresolved (Main et al., 2002). The development of these classifications was based on infant attachment patterns derived from an observational

classification system (Hesse, 2008). The AAI is a valuable instrument to assess for attachment mental representations. Among the other AAI classifications, the unresolved attachment state of mind most closely resembles disorganized attachment, but it is only coded when an individual reports a past trauma or the loss of a significant person. It does not account for other causes of disorganization, such as experiencing parental frightened/frightening behaviours or parental withdrawal (Hennighausen, Bureau, David, Hauser & Lyons-Ruth, 2011).

Although the AAI is a gold standard measure when assessing for attachment states of mind, it is not ideal if the goal is to better understand the complexity of disorganized attachment mental representations as it omits aspects of its aetiology. The AAI has a supplemental Experiences scale that assesses for role reversal, however unlike the GPACS, it does not distinguish between caregiving and punitive behaviours. Thus, it does not allow for a comprehensive assessment of role reversal. Furthermore, on a practical note, the AAI requires considerable training to use and it is time-consuming to administer and code. As such although the GPACS and AAI provide important clinical and research applications, it would be beneficial to have a comprehensive self-report questionnaire for young adults that assesses for disorganized and controlling attachment representations.

Parentification Literature

A related concept to controlling/caregiving attachment within systems theory is “parentification”. There are numerous self-report measures that assess for this construct (e.g., The Parentification Questionnaire: Sessions & Jurkovic, 1986; Parentification Scale: Mika, Bergner, & Baum, 1987; Parentification Inventory: Hooper, 2009; Relationship with Parents Scale: Alexander, 2003). Parentification describes parent-child interactions where

the child is expected to assume a parental role within the family and to engage in and/or expressive caregiving, usually toward their parents (Boszormenyi-Nagy & Spark, 1973). According to this literature, there are two main forms of parentification: instrumental caregiving, which involves a child holding functional responsibilities in the household (e.g., grocery shopping, completing laundry, assisting ill sibling), and expressive or emotional caregiving, which involves providing emotional comfort to a parent and mediating family conflicts (Jurkovic, 1997; Jurkovic, Jessee & Goglia, 1991). Interestingly, it has been theorized by various family system researchers that expressive parentification may lead to more severe consequences than instrumental parentification as it is assumed to cause more stress in the child (Byng-Hall, 2008; Jankowski, Hooper, Sandage & Hannah, 2013; Jurkovic, 1997). There is growing empirical support for this assumption (Hooper & Wallace, 2010).

Although parentification measures are conceptually relevant to controlling/caregiving attachment, it does not assess disorganized and controlling attachment representations in young adults, nor the co-occurrence of punitive and caregiving behaviours. Of importance, while parentification measures assess for behaviours comparable to controlling/caregiving attachment, items place greater emphasis on the nature and type of parentification behaviours, such as the provision of emotional or practical assistance to parents (e.g. “My parents often shared secrets with me about other family members”; “My parents asked for my advice when making a decision about my sibling’s misbehaviour”). Central to attachment theory is the importance of the individual’s representations of attachment-related experiences, rather than the reliance on reports of having particular experiences (see Bowlby, 1969/1982). As such, a measure designed to assess mental representations of disorganized or

controlling attachment, from an attachment theory point of view, should address the individual's affective reactions or mental representations, such as the feeling of burden, resentment, or fear of their parent. It has been noted within the attachment literature that the particular task adopted by a child is not essential to the concept of role reversal; however, of importance are feelings of emotional burden from providing emotional support to parents (Main & Goldwyn, 1985/1995; Zeanah & Klitzke, 1991). Thus, existing measures of parentification are not appropriate in assessing mental representations of controlling/caregiving attachment as they rely more on past experiences and behaviours and they do not cover other forms of role reversal (i.e., punitive) and disorganized attachment. As such, the development of a self-report measure grounded in attachment theory would be useful in filling the void on existing measures of disorganization and role reversed attachment representations in young adulthood.

General Objectives

To order to fill the void on existing measures of disorganized and controlling attachment representations, the current research project aims to develop a measure that is grounded within attachment theory to assess young adults' current mental representations of disorganized and controlling attachment. The current research project is composed of two studies. Study 1 assessed the reliability and validity of the newly developed measure. The reliability of the scale was assessed by examining its structural stability through confirmatory factor analyses (CFA), determining its internal consistency, and its 3 to 4-month temporal reliability. Convergent and discriminant validity was investigated by exploring the new measure's association to theoretically similar measures, and criterion-related validity was assessed by exploring its association to childhood risk variables

commonly identified within the attachment literature. To further provide support for the validity of the newly developed measure, Study 2 explored the association between the measure to psychological outcome variables, such as problems in the separation-individuation process, unresolved feelings towards caregiver and current psychological well-being. Three samples were used for this research project. The next chapter will provide an overview of the creation of the newly developed measure.

CHAPTER 2:

Development of the CDRR

Development of the CDRR

The *Childhood Disorganization and Role Reversal Scale – Initial Version* (CDRR: Meier & Bureau, 2011) was developed to comprehensively assess young adults' perceptions of childhood disorganization and role reversal. Designed as a time and cost efficient assessment measure, the CDRR intends to help mental health workers and researchers conveniently explore young adults' current mental representations of disorganized and controlling attachment.

The development of the CDRR was guided by the recommendations of various scholars in scale development using classical measurement theory (Clark & Watson, 1995; DeVellis, 2012; Netemeyer, Bearden & Sharma, 2003; Nunnally & Bernstein, 1994; Pedhazur & Schmelkin, 1991; see Slavec & Drnovšek, 2012 for guidelines on scale development). From these recommendations, scale development can be viewed as comprising five steps that involve (1) defining the construct and preparing items through domain-sampling; (2) pilot-testing the initial item pool; (3) determining the scale's dimensionality; (4) reducing the item pool through factor analysis; (5) assessing the scale's reliability (i.e., structural stability, internal consistency); and, (6) assessing the scale's validity (i.e., content validity, convergent validity, discriminate validity, criterion-related validity). Steps 1 to 4 will be covered in this chapter, and Steps 5 and 6 will be addressed in Chapter 3.

Initial Development of the CDRR: Construct Domains, Item Creation, and Scale

Format

Attachment theory emphasizes the importance of focusing beyond the occurrence of events and towards the individual's representations of attachment-related experiences (see

Bowlby, 1969/1982). As such, the items of the CDRR were developed to not only focus on behaviours, but also on perceptions, attitudes and emotions in regards to participants' attachment towards their caregivers. Moreover, the development of the CDRR was guided by the re-conceptualization of the role of fathers within attachment theory as recent studies have not only found that fathers play an important role in their child's attachment (Bretherton, 2010), but that they may provide unique contributions (Grossman, Grossman, Kindler & Zimmerman, 2008). However, limited studies have explored the father-child relationship and its unique patterns. As there is a lack of clarity as to whether or not differences exist between mother-child attachment and father-child attachment, the item selection process through factor analysis was conducted separately for each parent to create the opportunity to arrive at unique factors for each parent.

The construct domains for disorganized and controlling attachment were developed from a comprehensive review of the literature on disorganized and controlling attachment (e.g., Bureau, Easterbrooks & Lyons-Ruth, 2009; Cassidy & Marvin, 1992; Hesse & Main, 2006; George & Solomon, 1996; Lyons-Ruth & Jacobvitz, 2008; Main & Cassidy, 1988; Moss, Bureau, St-Laurent, & Tarabulsky, 2011) and parentification (e.g., Bellow, Boris, Larrieu, Lewis & Elliot, 2005; Byng-Hall, 2008; Chase, 1999; Kerig, 2005; Jacobvitz & Kretchmar, 1996; Jurkovic, 1997; Jurkovic, Thirkield & Morrell, 2001; Peris & Emery, 2005; Solomon, George & de Jong, 1995; West & Keller, 1991). The domains were also developed from a review of behavioural measures on disorganization and controlling attachment (i.e., Preschool Attachment Coding System: Cassidy & Marvin, 1992; Middle Childhood Disorganization and Controlling Scales: Bureau, Easterbrooks, Killam & Lyons-Ruth, 2006), self-report scales on parentification (i.e., Relationship with Parents Scale:

Alexander, 2003; Parentification Questionnaire: Sessions and Jurkovic, 1986), interview-based measures on role reversal (i.e., Childhood Experience of Care and Abuse Questionnaire: Bifulco, Brown, & Harris, 1994; Adult Attachment Interview: George, Kaplan, & Main, 1985/1996), and self-report measures related to disorganized attachment (Caregiving Helplessness Questionnaire: George and Solomon, 2011; Young Adult Compulsive Caregiving Scale: Meier, Martin, Bureau, Speedy, Levesque & Lafontaine, 2014). Moreover, expert researchers and clinicians in the field of disorganization and controlling attachment (e.g., Drs. Carol George, Robert Marvin, Kathryn Kerns and Jean-François Bureau) were consulted to determine key elements of these attachment constructs.

Based on the aforementioned review of the attachment and parentification literature and existing attachment and parentification measures, construct domains of disorganized, caregiving and punitive attachment were developed to assist with item development. The disorganization domain included the following components: parental frightening or frightened behaviours, parental dissatisfied with life, parental helplessness, incompetent in the parental role, and parental lack of concern or appreciation of their child. The caregiving domain includes the following components: child feeling responsible to take care of their caregiver, internalizing caregiving role, perceiving unfairness in taking care of caregiver, feeling pressure to be responsible to care for the emotional and physical needs of the caregiver, being hypervigilant to the mood of the caregiver, displaying mood dependence on the caregiver's mood, suppressing their attachment system, and perceived inappropriate parent-child boundaries. To supplement the information derived from the limited studies on punitive attachment, components of the punitive domain were also based on clinical and research observations (from research supervisor, Dr. Jean-François Bureau). The punitive

domain includes the following components: child holding negative feelings and perceptions of caregiver, scolding caregiver, acting-out behaviours towards caregiver, feeling the need for self-protection, and displaying hostility towards parents, and hostile-helpless dynamics between the parent and child. An initial pool of 180 items (at least 4 items per sub-domain) was generated to represent the scope of the domain areas. Participants were asked to answer each item twice; one with respect to their relationship with their mother and the other with respect to their relationship with their father. The item pool was refined following pilot-testing and factor analyses (see below).

Choice of rating scale and number of response points. Responses to the CDRR items are answered on a rating scale as it allows participants to respond more precisely to statements along a continuum, and to indicate the strength of their response. As items varied in their focus, such as on affective states, attitudes, beliefs, or frequencies of behaviours, an agreement scale and a frequency scale were the most appropriate rating scale options (Rust & Golombok, 1999). The hybrid agreement and frequency scale ranges from “Completely agree/Always”, “Strongly Agree/Often”, “Moderately Agree/Sometime”, “Slightly Agree/Rarely”, and “Not at all/Never”. A “Not applicable” response option was provided for items that may not be applicable to all participants (e.g., “My caregiver asked me to take care of my sibling(s)”, “When I took care of my caregiver, I felt that my caregiver truly appreciated my efforts”). A unipolar rating scale allows participants to rate the presence or absence of one concept with increasing levels of intensity, while a bipolar rating scale allows participants to rate the presence or absence of two concepts with increasing levels of intensity for both ends. A unipolar rating scale was used to ease the interpretation of the mid-point (see Schaeffer & Presser, 2003).

In regards to the number of response points, numerous researchers have noted that scale reliability increases with the number of scale points; however, there are mixed results on the optimal number of points (see Preston & Colman, 2000; Revilla, Saris & Krosnick, 2014; Weng, 2004). Preston and Colman (2000) recommended the use of 7 points for optimal reliability and validity, while Lozano, Garcia-Cueto and Muniz (2008) recommended the use of 4 to 7 points. Visser, Krosnick and Lavarkas (2000) considered the type of scale and noted that 5-point scales are best for unipolar scales, while 7-point scales are best for bipolar scales. As a unipolar scale was selected for the CDRR, a 5-point scale was used as it balances psychometric performance considerations, and participant's experiences (e.g., cognitive fatigue, motivation) and discriminatory capacities (e.g., it may be cognitively taxing to accurately respond to scales that have lengthy response point options).

Pilot-testing. To improve the readability of the CDRR, it was pilot-tested twice (total $N = 25$) with undergraduate and graduate students studying in psychology at the University of Ottawa and Carleton University. Participants were asked to provide suggestions and comments on the flow of the questionnaire, consistency of wording, spelling/grammar, clarity of wording and of instructions, redundancy of questions, and resistance in answering certain questions. Items were modified or deleted based on the comments and suggestions provided by the participants. This process resulted in 161 items (19 item were deleted).

Factor Structure and Item Refinement of the CDRR: Principal Components Analysis

The literature on scale development recommends the use of principal components analysis (PCA) for item refinement and common factor analysis for determining latent factors; however, the solutions derived from both methods are very similar, especially with

larger item pools (i.e., 30 items or above) (Floyd & Widaman, 1995; Hair, Anderson, Tatham & Black, 1998; Netemeyer et al., 2003). For this study, factor analysis using principal components analysis (PCA) was used to determine the factor structure of the CDRR and to reduce the number of items. Varimax rotation, an orthogonal rotation method, was used to improve the interpretation of the factor solution and to extract distinct factors (Floyd & Widaman, 1995; Rust & Golombok, 1999).

Method

Participants

Participants from Sample 1 included 750 undergraduate students at the University of Ottawa that were between the ages of 17 and 25 (601 females; $M_{age} = 18.68$ years, $SD = 1.34$). The majority of the participants were Caucasian (66.4%), while the remaining participants were Asian (11.3%), Middle Eastern (6.8%), Black (5.3%), mixed ethnicity (2.4%), Aboriginal/First Nations/Métis (1.2%), Hispanic (1.1%), or another ethnicity not listed (4.4%). The majority of participants identified English (72.9%) as their primary language, while a minority identified French (14.9%) or another language (10.9%) as their primary language. Approximately half of the participants currently live separately from their parents (54.8%), or reside with their parents (43.3%). Almost eighty-percent of participants were currently enrolled in a Social Sciences or Health Sciences/Sciences undergraduate degree.

Procedure

Participants were all registered in an introductory undergraduate psychology course and were recruited through the Integrated System for Participation in Research (ISPR) where they selected this study among other choices. Participants must have been able to read and

write in English and were under the age of 25. Recruitment occurred from September 2011 to April 2012 (fall and winter semesters). Participants completed the questionnaires online through a secure survey server (i.e., Fluidsurveys). No personal information was kept (e.g., IP addresses, student numbers) with the exception of their anonymous research code provided by ISPR, as well their anonymous university email address if they agreed to volunteer for the second part of the study. At the start of the study, participants were provided with an information letter and a list of community mental health resources to use at their discretion should they experience distress from participation. Participants were asked to complete the comprehensive sociodemographic questionnaire and the original version of the CDRR. Upon completion, participants received one credit. Participants were informed that the survey would take approximately one hour to complete. The Ethics Board at the University of Ottawa approved the procedures involving this sample.

Results

Data Screening and Assumption Testing

First, the data were screened to identify missing data and univariate outliers. Participants were removed from the analysis if they completed less than 50% of the CDRR questionnaire (both versions) or if they responded in an odd or careless manner; this resulted in 23 cases being deleted. A few participants only completed one of the two CDRR parent versions, leaving a total sample size of 749 participants for analyses using the mother version and 744 participants for the father version. The percentage of missing data was calculated for each item for both CDRR parent versions. Missing data were not imputed as it was within acceptable limits for both parent versions (up to 5% missing for the mother version; up to 6% missing for the father version) (Schafer, 1999). Pairwise deletion was used

to treat missing data. A high percentage of participants (25% to 67%) did not respond to the 27 items that included the response option of “Not Applicable”. Items with the “Not Applicable” response option were deleted as these items were either unclear (e.g., double-barrel question), referred to an infrequent event, or were better represented in other items. This resulted in 134 items being retained for both CDRR parent versions.

Second, the data were examined to verify if it met the assumptions for conducting a principal components analysis (PCA). A PCA with no rotation was used for assumption testing. Factorability of both parent versions were deemed adequate based on examinations of the correlations between items (most r 's $> .20$), as well as through demonstrating satisfactory sampling adequacy based on the Kaiser-Meyer-Olkin (KMO) statistics (Mother version = .96; Father version = .95) and Bartlett's Test of Sphericity ([Mother version: $\chi^2 = 56211.97(8911)$ $p < .001$; Father version: $\chi^2 = 5569.32(8911)$ $p < .001$) (Floyd & Widaman, 1995; Tabachnick & Fidell, 2007; Worthington & Wittaker, 2006). The sample size of 750 participants was adequate as it met the criteria of having at least 5 participants per item (134 items $\times$ 5 = 670 participants) and having communalities at .50 or above (Streiner, 1994; see Worthington & Whittaker, 2006).

Main Analyses

Determining the number of factors to extract. Varimax rotation was used to determine the number of factors on the CDRR that are distinct from one another. This process was completed separately for each parent version. The plot of the scree test for both CDRR parent versions from the initial PCAs with Varimax rotation suggested a three or four-factor model. The common practice of using the number of eigenvalues above 1.0 as an estimate for the number of factors to extract was not appropriate for this current study as a

large number of factors were above 1.0, leading to an overestimation of the number of factors to extract. As recommended by Floyd and Widaman (1995) and Worthington and Whittaker (2006), the three-factor model and four-factor model using PCAs with Varimax rotation were compared based on interpretability of the factors, with the four-factor model providing the most meaningful factors and the best coverage of the latent components for both CDRR parent versions.

Item refinement. The item refinement process was guided by Worthington and Whittakers's (2006) recommendations. First, item loadings below .40 were deleted. Second, cross-loading items were deleted if items loaded highly (.40 or above) on two or more variables or when the cross-loading difference between two or more items was .15 or less. Loadings and cross-loadings were inspected and treated separately for each parent version in order to arrive at an item pool specific to mothers and fathers. This process was reiterative, whereby the poorest performing item was deleted first and the model was rerun using PCA with Varimax rotation without that item to find the next poorest performing item. The process was completed when the model only included items loading at .40 or above and cross-loading items with loading differences at or below .15. Tables 2.1 and 2.2 presented the results of the PCAs. The item refinement process resulted in a four-factor model with 62 items for the mother scale, accounting for 43.14% of the variance, and a four-factor solution with 70 items for the father scale, accounting for 46.24% of the variance.

Labels for the factors were chosen based on the content of its items, resulting in similar and different labels for the CDRR mother and father versions. As predicted, the PCA revealed factors consistent with the caregiving, punitive, and disorganization constructs for both parents; however, the mother version had more complex factor structures than the father

version. For the CDRR mother version, the first factor included a total of 29 items related to the disorganization and punitive constructs (e.g., controlling behaviours towards mother, derogatory thoughts or behaviours towards mother, lack of parental competencies, maternal frightening behaviours towards child, as reported by youth), which was labelled “Disorganization/Punitive” to account for the blend of items. The second factor included a total of 11 items that were not consistent with a particular construct but involved mutually aggressive behaviours between mother and child, and a lack of emotion regulation from both members of the dyad (e.g., frustration at mother, yelling matches between dyad, mother hostility towards child). This factor was labelled “Mutual Hostility”. The third factor included 10 items related to the emotional caregiving construct (e.g., providing emotional support to mother, internalization of caregiving role, friend-like or confidant-like relationship with mother, suppression of attachment system, providing care to reduce own distress) that was labelled “Affective Caregiving”. The content of the last factor was unexpected but coherent with attachment theory. It included 12 items suggesting the perception of appropriate boundaries between a mother and child and a mother holding an authoritative role (e.g., as reported by youth, mother is described to be autonomous and functioning independently of child, child is autonomous of mother, mother holds reasonable expectations of child). This factor was labelled “Appropriate Boundaries” to account for the mother’s emotional independence from their child (“My caregiver did not show dependence on her/his children to make decisions”) and for the child’s mental separation from their mother (“My day was not ruined when my caregiver had a bad day”).

For the CDRR father version, the first factor included 36 items related to the disorganization construct (e.g., frightening or odd behaviours of father, frustration towards

father, parental incompetence, life dissatisfaction of father as reported by young adult) that was labelled “Disorganization”. The second factor included 19 items related to the affective caregiving construct (e.g., internalization of caregiving role, emotional caregiving, pressure to caregive, burden from caregiving, and suppression of attachment system) that was labelled “Affective Caregiving”. Similar to the mother version, the content of the third factor was unexpected but it is coherent with attachment theory. It included 7 items suggesting appropriate boundaries between father and child, whereby the child feels emotionally close to their father (e.g., warm relationship, involved parenting, appropriate limits set by father). This factor was labelled “Appropriate Boundaries”. The last factor consisted of 8 items related to the punitive construct (e.g., firm with father, acting-out behaviours towards father). This factor was labelled as “Punitive”.

Supplementary analyses. Correlations among the CDRR scales for both father parent versions are presented in Tables 2.3 and 2.4, respectively, as well as the mean and standard deviation of each CDRR scale. The strength of the correlation coefficients was interpreted based Cohen’s (1988) notion of a small ($\pm .1$ to $.3$), moderate ($\pm .3$ to $.5$) and large effect ($\pm .5$ to 1.0). For the CDRR mother version, the scales were minimally related to one another, with the exception of the Mutual Hostility scale having a large and positive association to the Disorganization scale. For the CDRR father version, the strength of the correlations between the scales was generally moderate; however, the Appropriate Boundaries scale was unrelated to the Punitive and Affective Caregiving scales.

References

- Alexander, P. (2003). Parent-child role reversal: Development of a measure and test of an attachment theory model. *Journal of Systemic Therapies*, 22, 31-44.
doi:10.1521/jsyt.22.2.31.23349
- Bellow, S. M., Boris, N. W., Larrieu, J. A., Lewis, M. L., & Elliot, A. (2005). Conceptual and clinical dilemmas in defining and assessing role reversal in young child-caregiver relationships. *Journal of Emotional Abuse*, 5, 43-66.
doi:10.1300/J135v05n02
- Bifulco, A., Brown, G. W., & Harris, T. O. (1994). Childhood experience of care and abuse (CECA): A retrospective interview measure. *Journal of Child Psychology, Psychiatry & Allied Disciplines*, 35, 1419-1435. doi:10.1111/j.1469-7610.1994.tb01284.x
- Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.
- Bretherton, I. (2010). Fathers in attachment theory and research: A review. *Early Child Development and Care*, 180, 9-23. doi:10.1080/03004430903414661
- Byng-Hall, J. (2008). The crucial roles of attachment in family therapy. *Journal of Family Therapy*, 30, 129-146. doi:10.1111/j.1467-6427.2008.00422.x
- Bureau, J.-F., Easterbrooks, M. A., Killam, S., & Lyons-Ruth, K. (2006). *Middle Childhood Disorganization and Controlling Scales* (Unpublished coding manual). Harvard Medical School, Cambridge, MA.
- Bureau, J.-F., Easterbrooks, A., & Lyons-Ruth, K. (2009). Attachment disorganization

and controlling behaviour in middle childhood: maternal and child precursors and correlates. *Attachment & Human Development*, 11, 265-284.

doi:10.1080/14616730902814788

Cassidy, J., & Marvin, R. S. (1992). *Attachment organization in preschool children:*

Procedures and coding manual (Unpublished manual). University of Virginia, Charlottesville, VA.

Chase, N. D. (1999). *Burdened children. Theory, research and treatment of parentification.*

London, England: Sage.

Clark, L., & Watson, D. (1995). Constructing validity: Basic issues in objective scale

development. *Psychological Assessment*, 7, 309-319. doi:10.1037/1040-3590.7.3.309

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New

Jersey, NY: Lawrence Erlbaum.

DeVellis, R. F. (2012). *Scale development: Theory and applications* (3rd ed.). Thousand

Oaks, CA: Sage.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of

clinical assessment instruments. *Psychological Assessment*, 7(3), 286-299.

doi:10.1037/1040-3590.7.3.286

George, C., Kaplan, N., & Main, M. (1985/1996). *The Adult Attachment Interview protocol*

(Unpublished manuscript). University of California, Berkeley.

George, C., & Solomon, J. (1996). Representational models of relationships: Links between

caregiving and attachment. *Infant Mental Health Journal*, 17, 198-216.

doi:10.1002/(SICI)10970355(199623)17:3<198::AID-IMHJ2>3.0.CO;2-L

- George, C. & Solomon, J. (2011). Caregiving helplessness: The development of a screening measure for disorganized maternal caregiving. In J. Solomon and C. George (Eds.) *Disorganization of attachment and caregiving* (pp. 133-166). New York, NY: Guilford Press.
- Grossmann, K., Grossmann, K. E., Kindler, H., & Zimmermann, P. (2008). A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 857–879). New York, NY: Guilford Press.
- Hair, J. F., Anderson, R.E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hesse, E., & Main, M., (2006). Frightened, threatening, and dissociative parental behavior in low-risk samples: Description, discussion, and interpretations. *Development and Psychopathology*, 18, 309–343. doi:10.1017/S0954579406060172
- Jacobvitz, D. B., & Kretchmar, M. D. (1996, August). *Breakdown and maintenance of mother-daughter boundaries*. Paper presented at the biennial meeting of the Society for Research in Child Development, Seattle, WA.
- Jurkovic, G. J. (1997). *Lost childhoods: The plight of the parentified child*. New York, NY: Brunner/Mazel.
- Jurkovic G. J., Thirkield A., & Morrell R. (2001). Parentification of adult children of divorce: A multidimensional analysis. *Journal of Youth and Adolescence*, 30(2), 245–257. doi:10.1023/ A:1010349925974
- Kerig, P. K. (2005). Revisiting the construct of boundary dissolution: A multidimensional

- perspective. In P. K. Kerig (Ed.), *Implications of parent-child boundary dissolution for developmental psychopathology: "Who is the parent and who is the child?"* (pp. 5-42). Binghamton, NY: Haworth Maltreatment & Trauma Press.
- Lozano, L. M., García-Cueto, E., & Muñiz, J. (2008). Effect of the number of response categories on the reliability and validity of rating scales. *Methodology*, 4, 73–79. doi:10.1027/1614-2241.4.2.73
- Lyons-Ruth, K., & Jacobvitz, D. (2008). Attachment disorganization: Genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 666-697). New York, NY: Guilford Press.
- Main, M. & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6: predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology* 24, 415-426. doi:10.1037//0012-1649.24.3.415
- Meier, M., & Bureau, J.-F. (2011). *Childhood Disorganization and Role Reversal Scale: Initial Version* (Unpublished document). School of Psychology, University of Ottawa, Ottawa, Canada.
- Meier, M., Martin, J., Bureau, J.-F., Speedy, M., Levesque, C., & Lafontaine, M.-F. (2014). Psychometric properties of the Mother and Father Compulsive Caregiving Scales: A brief measure of current young adult caregiving behaviors toward parents. *Attachment & Human Development*, 16(2), 174–191. doi:10.1080/14616734.2013.870809
- Moss, E, Bureau, J.-F, St. Laurent, D., & Tarabulsy, G. (2011). Understanding disorganized

- attachment at preschool and school age: Examining divergent pathways of disorganized and controlling children. In J. Solomon & C. George (Eds.), *Attachment disorganization* (2nd ed., pp. 52-79). New York, NY: Guilford.
- Netemeyer, R. G., Bearden, W. O. & Sharma, S. (2003). *Scaling procedures: issues and applications*. Thousand Oaks, CA: Sage Publications.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw Hill, Inc.
- Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design, and analysis: An integrated approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Peris, T. S., & Emery, R. E. (2005). Redefining the parent-child relationship following divorce: Examining the risk for boundary dissolution. In P. K. Kerig (Ed.), *Implications of parent-child boundary dissolution for developmental psychopathology: "Who is the parent and who is the child?"* (pp. 169-189). Binghamton, NY: Haworth Maltreatment & Trauma Press.
- Preston, C. C., & Colman, A. M. (2000). Optimal number of response categories in rating scales: Reliability, validity, discriminating power, and respondent preferences. *Acta Psychologica*, 104, 1–15. doi:10.1016/S0001-6918(99)00050-5
- Revilla, M. A., Saris, W. E., & Krosnick, J. A. (2014). Choosing the number of categories in agree-disagree scales. *Sociological Methods & Research*, 43, 73–97. doi:10.1177/0049124113509605
- Rust, J. & Golombok, S. (1999) *Modern Psychometrics: The science of psychological assessment* (2nd ed.). New York, NY: Routledge.
- Schaeffer, N. C., & Presser, S. (2003). The Science of asking questions. *Annual Review*

- of Sociology*, 29, 65–88. doi:10.1146/annurev.soc.29.110702.110112
- Sessions, M., & Jurkovic, G. (1986). *The Parentification Questionnaire*. Department of Psychology, Georgia State University, Atlanta, GA.
- Slavec, A., & Drnovšek, M. (2012). A perspective on scale development in entrepreneurship research. *Economic and Business Review*, 14(1), 39–62.
- Solomon, J., George, C., & De Jong, A. (1995). Children classified as controlling at age six: Evidence of disorganized representational strategies and aggression at home and school. *Development and Psychopathology*, 7, 447–464. doi:10.1037/e334362004-015
- Streiner, D. L. (1994). Figuring out factors: The use and misuse of factor analysis. *Canadian Journal of Psychiatry*, 39, 135-140.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.)*. New York, NY: Pearson Education Inc.
- Visser, P. S., Krosnick, J. A., & Lavrakas, P. (2000). Survey research. In H. T., Reis & C. M., Judd (Eds.), *Handbook of research methods in social psychology* (pp. 223-252). New York, NY: Cambridge University Press.
- Weng, L.-J. (2004). Impact of the number of response categories and anchor labels on coefficient alpha and test-retest reliability. *Educational and Psychological Measurement*, 64, 956–972. doi:10.1177/0013164404268674
- Worthington, R., & Whittaker, T. (2006). Scale development research: A content analysis and recommendations for best practice. *The Counseling Psychologist*, 34, 806-838. doi:10.1177/0011000006288127
- West, M. L., & Keller, A. E. R. (1991). Parentification of the child: A case study of

Bowlby's compulsive caregiving attachment pattern. *American Journal of Psychotherapy*, 11, 425-431.

Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, 34, 806–838. doi:10.1177/0011000006288127

Table 2.1

Factor Loadings, Eigenvalues and Variance Accounted for on the CDRR Mother Version (N = 749)

Item	Rotated Factor Loadings			
	Factor 1	Factor 2	Factor 3	Factor 4
151. Sometimes I had to be in charge of my caregiver	.73			
25. I had to look out for myself as my caregiver would not	.71			
123. My caregiver acted more my age than hers/his	.71			
135. My caregiver asked me to do tasks that were not age-appropriate	.70			
115. My caregiver made poor decisions	.69			
46. I felt that I was more concerned about my caregiver's emotional issues than he/she was about mine	.69	.34		
103. My caregiver should never have become a parent	.68			
41. I was told non-age appropriate things by my caregiver	.67			
109. My caregiver did not know how to run the household so I had to do it	.65			
27. My caregiver displayed odd behaviours	.64	.38		
70. My caregiver could become abusive if she/he was in a really bad mood	.64	.36		
68. My caregiver wanted to perform parental duties but it was difficult for him/her to do them	.64			
150. I was the "little parent" for my caregiver	.64			
126. I felt that my caregiver did not really like me	.63	.35		
64. My caregiver did not always make mature choices	.63	.33		
154. In my household, I learned to focus on my own best interests as my caregiver would not	.60			
156. I was the "therapist" for my caregiver	.60		.35	
21. My caregiver did not seem to be in touch with reality	.58			
74. I felt that my caregiver had a miserable life	.57	.36		
152. I learned to protect myself from my caregiver	.56			
29. I felt pressure to care for the physical well-being of my caregiver	.55			
1. In my relationship with my caregiver, I gave more than I received	.55			
132. I was physically beaten by my caregiver (including harsh	.55			

punishment or physical abuse)		
143. I had to be harsh to my caregiver sometimes if he/she made a mistake	.54	.37
128. My caregiver did not know how to control me	.52	
122. My caregiver felt that I had the same problems as his/her partner	.51	.34
71. My caregiver expressed the thought that I was better than his/her partner	.51	
43. If my caregiver was out of control, I would physically try to control him/her	.51	
131. My caregiver got jealous when I spent more time with friends	.49	
66. My caregiver and I had our share of yelling matches		.75
53. I had a hard time calming down when I was really upset at my caregiver		.72
48. My caregiver could make me very upset	.32	.69
81. At times, I felt frustrated with my caregiver		.68
15. When I was angry at my caregiver, I would yell at him/her		.68
8. If my caregiver was upset at me, she/he would yell at me		.66
84. Even though my caregiver felt guilty about hurting my feelings, he/she couldn't help but to do it again	.35	.64
65. Sometimes if my caregiver upset me I would try to get back at him/her		.58
102. If my caregiver had a bad day, she/he would be upset at the family		.56
85. I know that my caregiver was concerned about me but it was hard for him/her to show it at times	.37	.51
89. My caregiver was not able to control me during my outbursts	.32	.50
153. I felt at my best when I could help my caregiver		.65
120. I felt the happiest when my caregiver was happy		.61
79. I was attentive to how my caregiver was feeling		.60
51. My caregiver would consider me to be like a best friend		.59
56. My caregiver was sharing personal information with me	.37	.58
61. Generally, when my caregiver was not happy I was not happy		.56
88. I helped run the household to help out my caregiver		.54
18. I would sacrifice my own needs of wanting to be comforted in order to care for my caregiver's needs		.51
146. I dealt with my own distress by lowering the distress of my	.32	.50

caregiver				
4. My caregiver confided in me about very personal matters	.34		.48	
137. My caregiver did not rely on me for advice				.67
138. My caregiver did not expect me to keep him/her company				.65
134. My caregiver would not fall apart if I told him/her my real feelings				.59
78. I did not feel that my caregiver expected more from me than what I could do				.55
113. My day was not ruined when my caregiver had a bad day				.54
118. My caregiver did not show dependency on her/his children to make decisions				.53
67. My caregiver did not take my helping-out behaviours for granted				.49
121. If I misbehaved, my caregiver was comfortable to exercise authority				.49
149. My caregiver set appropriate limits for me (e.g., television watching, Internet usage)	.32			.48
80. Even though it was distressing when my caregiver was upset, I was still able to engage in regular activities				.46
35. My caregiver delegated household tasks among family members in a fair manner				.43
26. My caregiver would validate me when I completed my chores				.41
Eigenvalue	16.62	4.16	3.39	2.57
% of variance	26.81	6.71	5.47	4.15

Note: Factor loadings below 0.40 (.32 for cross-loading items) are not shown in this table. Factor 1 = Disorganization/Punitive; Factor 2 = Mutual Hostility; Factor 3 = Affective Caregiving; Factor 4 = Appropriate Boundaries.

Table 2.2

*Factor Loadings, Eigenvalues and Variance Accounted for on the CDRR Father Version
(N = 744)*

Item	Rotated Factor Loadings			
	Factor 1	Factor 2	Factor 3	Factor 4
105. I had a difficult relationship with my caregiver	.82			
130. My caregiver scared me	.78			
139. My caregiver was not the best parent	.78			
124. My caregiver frightened me at times	.77			
119. My caregiver disappointed me	.75			
48. My caregiver could make me very upset	.75			
115. My caregiver made poor decisions	.73			
16. My caregiver was rejecting	.72			
126. I felt that my caregiver did not really like me	.70			
84. Even though my caregiver felt guilty about hurting my feelings, he/she couldn't help but to do it again	.68			
102. If my caregiver had a bad day, she/he would be upset at the family	.68			
103. My caregiver should never have become a parent	.68		-.38	
81. At times, I felt frustrated with my caregiver	.65			
27. My caregiver displayed odd behaviours	.65	.34		
70. My caregiver could become abusive if she/he was in a really bad mood	.65			
96. I felt that I was more rational than my caregiver	.65			
8. If my caregiver was upset at me she/he would yell at me	.65			
91. My caregiver's sense of humour could be mean at times	.63			
74. I felt that my caregiver had a miserable life	.63			
42. My caregiver was not always satisfied with his/her life	.62			
46. I felt that I was more concerned about my caregiver's emotional issues than he/she was about mine	.62	.36		
104. I did not feel comfortable showing weaknesses to my caregiver	.61			
107. At times, my caregiver's thoughts were not clear	.61			
64. My caregiver did not always make mature choices	.61			
53. I had a hard time calming down when I was really upset at my	.59			

caregiver		
132. I was physically beaten by my caregiver (including harsh punishment or physical abuse)	.57	
62. I had a better relationship with my caregiver when I did not express my emotions or needs to him/her	.56	
55. My caregiver hit me when she/he was angry at me	.53	
3. I felt that my caregiver demanded me to do more chores than I could handle	.53	
85. I know that my caregiver was concerned about me but it was hard for him/her to show it at times	.53	
1. In my relationship with my caregiver, I gave more than I received	.53	
21. My caregiver did not seem to be in touch with reality	.52	
123. My caregiver acted more my age than hers/his	.51	.33
32. I would get rewarded by my caregiver (e.g., praise, money, gift) when I helped around the house	-.51	
141. I saw my caregiver as a person with vulnerabilities	.45	
36. My caregiver and I were so close that we did a lot of activities with my peers together	-.44	
58. I played an important role in providing emotional support to my caregiver		.71
28. I felt pressure to care for the emotional well-being of my caregiver	.32	.67
29. I felt pressure to care for the physical well-being of my caregiver		.67
57. I was over involved in my caregiver's personal issues		.66
156. I was the "therapist" for my caregiver		.63
56. My caregiver was sharing personal information with me		.61
17. I felt responsible for the physical state of my caregiver		.61
24. I was expected to know what my caregiver was feeling	.36	.60
114. I was more concerned about attending to my caregiver's needs than of getting help for mine		.59
18. I would sacrifice my own needs of wanting to be comforted in order to care for my caregiver's needs		.59
4. My caregiver confided in me about very personal matters		.57
146. I dealt with my own distress by lowering the distress of my caregiver		.56

150. I was the "little parent" for my caregiver	.56			
14. It seemed like my world would crash when my caregiver was not happy	.55			
11. I felt responsible for the emotional state of my caregiver	.55			
151. Sometimes I had to be in charge of my caregiver	.53	-.34		
43. If my caregiver was out of control, I would physically try to control him/her	.52			
157. My caregiver considered me to be the peacemaker in the family	.50			
22. The happiness of my caregiver depended on me	.50			
108. In general, my caregiver was concerned about my safety		.66		
120. I felt the happiest when my caregiver was happy		.62		
121. If I misbehaved, my caregiver was comfortable to exercise authority		.62		
149. My caregiver set appropriate limits for me (e.g., television watching, Internet usage)		.57		
79. I was attentive to how my caregiver was feeling		.55		
147. It was not difficult for me to figure out the mood of my caregiver		.43		
78. I did not feel that my caregiver expected more from me than what I could do		.42		
82. If my caregiver did something wrong, I would express my disagreement towards his/her actions			.73	
63. I would lecture my caregiver if he/she did something I did not agree with	.35		.65	
15. When I was angry at my caregiver I would yell at him/her			.64	
83. I did not tolerate my caregiver yelling at me			.62	
66. My caregiver and I had our share of yelling matches	.41		.58	
65. Sometimes if my caregiver upset me I would try to get back at him/her	.37		.53	
89. My caregiver was not able to control me during my outbursts			.47	
73. I could refuse assisting my caregiver without feeling guilty			.45	
Eigenvalue	20.61	5.65	3.58	2.53
% of variance	29.44	8.08	5.11	3.61

Note: Factor loadings below 0.40 (.32 for cross-loading items) are not shown on this table. Factor 1 = Disorganization; Factor 2 = Affective Caregiving; Factor 3 = Appropriate Boundaries; Factor 4 = Punitive.

Table 2.3

Means, Standard Deviations, and Intercorrelations Among Scales of the CDRR Mother Version

	1.	2.	3.	4.
1. Disorganization/Punitive	--	.29***	.67***	-.25***
2. Affective Caregiving		--	.19***	.07
3. Mutual Hostility			--	-.12**
4. Appropriate Boundaries				--
Mean	41.15	26.90	23.94	39.26
(SD)	(16.34)	(7.10)	(8.73)	(8.86)

Note: Depending on variable pairings, sample size ranged from 515 to 653 participants.

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

Table 2.4

Means, Standard Deviations, and Intercorrelations Among Scales of the CDRR Father Version

	1.	2.	3.	4.
1. Disorganization	--	.49***	.40***	-.26***
2. Affective Caregiving		--	.40***	-.02
3. Punitive			--	.03
4. Appropriate Boundaries				--
Mean	68.20	30.37	16.75	24.95
(SD)	(26.00)	(10.59)	(5.76)	(5.43)

Note: Depending on variable pairings, sample size ranged from 557 to 656 participants.

*** $p < .001$.

CHAPTER 3 (STUDY 1):
Reliability and Validity Analyses of the CDRR

Reliability and Validity Analyses of the CDRR

Psychometric Theory

Reliability

This study assessed three types of reliability, namely, structural stability (or structural invariance and factor stability), internal consistency, and temporal reliability. These reliability indices will be elaborated upon in the following sections.

Structural stability. When developing a new measure and establishing its scales or factors, it is important to determine if these scales are reliable configurations of the construct being assessed across various situations, such as sample and time (Taris, Bok & Meijer, 1998). As noted in Chapter 2, the factors of the CDRR were determined through conducting principal components analyses (PCA). A confirmatory factor analysis (CFA) conducted with another sample is recommended to assess the robustness of the scale's structure (Floyd & Widaman, 1995).

In the current study, the CDRR was cross-validated by the inclusion of two samples. One sample was used to conduct PCAs to determine the factor structure of the CDRR (see Chapter 2) and another sample was used to conduct CFAs to measure its structural stability. Support will be found for the structural stability of the CDRR if the derived factors from the initial PCAs demonstrate a good fit with the data from the other sample. This would suggest that these derived factors are meaningful (Floyd & Widaman, 1995). Comparison of the parameter estimates (e.g., strength and direction of the correlations between the observed and latent variables and the factor loadings of the observed variables on the latent variables) will be compared between initial PCAs and CFAs to determine if they are similar (Brown, 2006; Cabrera-Nguyen, 2010).

Internal consistency. Internal consistency is a form of reliability that assesses the degree of consistency between scores on a given measure (Haynes, Smith & Hunsley, 2011). Cronbach's coefficient alpha is commonly used to assess for internal consistency of a scale. It has been found that the value of the coefficient alpha increases with the number of items, leading to the overestimation of internal consistency (Cortina, 1993). As such, it has been recommended to also calculate the average inter-item correlations, as they are not influenced by item pool size (Clark & Watson, 1995; Cortina, 1993). In this study, a Cronbach's coefficient alpha and average inter-item correlation will be calculated for each CDRR scale.

Temporal stability. Temporal stability, or test-retest reliability, assesses the consistency of scores at two different time points to determine the generalizability of the results from the measure across time (Haynes et al., 2011). It is important for researchers to determine the appropriate time interval between the two testing periods, to keep in mind the nature of the construct and to minimize instrument recall. Responses to measures that assess trait-like constructs (e.g., intelligence, personality), as opposed to fluid traits (e.g., anxiety, stressors) are expected to be relatively stable over time; thus, the retesting period is recommended to occur several months after the initial test period (Haynes et al., 2011). As such, the time interval between the two testing periods for the present study will be 3 to 4-months as the CDRR assesses participants' current perceptions of childhood attachment that are deemed to be relatively stable and less susceptible to fluctuations.

Although the Pearson's product-moment correlation coefficient is commonly used in test-retest studies, it is not sufficient to determine the level of agreement of scores at two different testing periods as it only measures for consistency of scores (i.e., relative reliability) and not for systematic changes in scores across time (i.e., absolute reliability)

(Burton, Conway & Holgate, 2000; McGraw & Wong, 1996; Weir, 2005; Yen & Lo, 2002).

It is preferred to use intraclass correlation coefficient (ICC) as it assesses the magnitude difference between scores, as well as consistency using an analysis of variance (ANOVA) (Sattler, 1992; Yen & Lo, 2002). For this study, ICC and Pearson's product-moment correlation coefficient will be calculated to assess for different aspects of temporal reliability.

Validity

The types of validity that will be examined in this study include convergent validity, discriminant validity and criterion-related validity. These validity indices will be elaborated upon in the following sections. Although it cannot be measured psychometrically, content validity is an important component of validity. This will be discussed below.

Content validity. Content validity is defined as the extent to which domains of a measure are relevant and representative of the construct being assessed. Haynes, Richard and Kubany (1995) developed guidelines for creating a measure that has content validity. It includes determining main domains of the construct of interest (e.g., facets to include or exclude), developing items based upon existing information on that construct (e.g., from clinical experience, scientific studies, theory, experts) and organizing items based on each construct domain. As presented in Chapter 2, construct domains were based on a comprehensive review of the literature and from clinical experiences from researchers in the field, while items were based on the derived construct domains. It is assumed that through this process, the CDRR shows evidence of content validity.

Convergent and discriminant validity. Convergent validity examines the degree of the association between the measure of interest and other measures assessing the same

construct (Netemeyer, Bearden & Sharma, 2003), while discriminant validity examines the degree of association between the measure of interest and other measures that are assumed to differ from the construct of interest (Churchill & Iacobucci, 2002). Given the lack of existing self-report measures on controlling attachment representations in young adults, two existing measures on childhood parentification, which is a similar concept to controlling/caregiving attachment, will be used to assess the convergent validity of the Affective Caregiving mother and father scales. The Relationship with Parents Scale (RPSF/RPSM: Alexander, 2003) assesses for emotional parentification towards mothers and fathers separately, and the Parentification Inventory (PI: Hooper, 2009) provides an overall assessment of emotional and instrumental parentification towards parents and siblings. Discriminant validity will be assessed for the Affective Caregiving mother and father scales by comparing its association to related but differing constructs, such as parentification towards a sibling. As an indication of discriminant validity, it is also expected that the Appropriate Boundaries mother and father scales will not be related or negatively related to the parentification measures as the former assesses for youths' perceptions of healthy parent-child relationships. No other CDRR scales will be assessed for convergent or discriminant validity as the field lacks existing self-report measures on disorganized and punitive attachment.

Criterion-related validity. Criterion-related validity, or coherence, assesses the extent to which a measure is associated to a variable related to the construct of interest and provides support for the construct validity of the measure (Haynes et al., 2011). Given the lack of self-report measures on disorganized and punitive attachment, coherence to childhood risk variables related to those constructs will be assessed (as well as for the other scales). For instance, disorganized attachment has been consistently linked to various

childhood risk factors, including low family income (Bureau, Easterbrooks & Lyons-Ruth, 2009a; see meta-analysis by van IJzendoorn, 1999), parental mental health problems (Finger, 2006; Hesse & Main, 2006; Martins & Gaffan, 2000; Melnick, Finger, Hans, Patrick & Lyons-Ruth, 2008; see meta-analyses by van IJzendoorn, 1995; van IJzendoorn, Schuengel & Bakersman-Kranenburg, 1999) and marital conflict (Bureau et al., 2009a; Finger, Hans, Bernstein & Cox, 2009; see meta-analysis by van IJzendoorn et al., 1999). Another study found that maternal insensitivity and hostility was related to controlling/caregiving and controlling/punitive attachment and maternal withdrawn behaviours were related to controlling/caregiving attachment (Easterbrooks, Bureau & Lyons-Ruth, 2012). In line with the previous study, maternal depression was related to the combined disorganized/controlling group (O'Connor, Bureau, McCartney & Lyons-Ruth, 2011). There are very limited studies that have explored childhood risk variables of punitive attachment. One study found that maternal hostility and disruptive communication in infancy was related to punitive attachment in middle childhood and maternal reports of abusing their child (Bureau, Easterbrooks & Lyons-Ruth, 2009b). As such, the authors noted that punitive attachment might involve parental violence and hostility (Bureau et al., 2009b). Within the parentification literature, several family stress variables have been related to a child providing excess care to their parents, including parental mental health problems, parental substance abuse, parental history of abuse, parental separation or divorce, and parental marital conflict (Alexander, 2003; Burnett, Jones, Bliwise & Ross, 2006; Goglia, Jurkovic, Burt & Burge-Callaway, 1992; Hetherington, 1999; Jurkovic, Thirkeld & Morrell, 2001; Kelley et al., 2007; see Kerig, 2005; Peris, Goeke-Morey, Cummings & Emery, 2008; see Winton, 2002). As such, it is expected that the presence of experiencing childhood risk

would be related to higher mean scores on the disorganized and controlling CDRR scales and to lower mean scores on the Appropriate Boundaries scales.

Objectives and Hypotheses

The overall goal of Study 1 was to assess the psychometric properties of the newly developed CDRR questionnaire. The objectives of Study 1 include the following:

1. To assess the structural stability of the CDRR through conducting a CFA for each parent version. It is predicted that the CFA will replicate similar factors, for both parent versions, as derived from the initial PCA conducted to develop the measure. Specifically, it is expected that the derived factors from the CFA will be similar to the PCA factors (see Chapter 2). It is hypothesized that similar parameters (e.g., factor loadings, direction and strength of associations between factors) will be found between the initial PCA and CFA for each parent version.
2. To determine the internal consistency of the items on the scales of both CDRR parent versions. To accomplish this goal, Cronbach's coefficient alpha and average inter-item correlations will be calculated. It is hypothesized that the internal consistency indices will be adequate for all scales.
3. To investigate the 3 to 4-month temporal stability of the scales on both CDRR parent versions. This objective will involve calculating Pearson's product-moment correlation coefficients and intraclass correlation coefficients (ICC) on the scales at both testing times. It is predicted that the temporal stability of the scales will be adequate for both reliability coefficient statistics.
4. To assess the convergent and discriminant validity of selected scales by examining its association to existing measures assessing for similar constructs. In regards to

convergent validity, it is expected that higher scores on the Affective Caregiving mother and father scales will be associated positively to greater reports of childhood parentification. In regards to discriminate validity, it is predicted that scores on the Affective Caregiving mother and father scales will have a stronger positive association to parentification towards parents than to parentification towards siblings. It is also expected that higher scores on the Appropriate Boundaries mother and father scales will not be related or negatively related to childhood reports of parentification.

5. To assess the criterion-related validity or coherence of the CDRR scales to childhood risk variables. It is expected that the childhood risk variables will be positively related to higher scores on the disorganized and controlling CDRR scales and negatively related to higher scores on the Appropriate Boundaries scales.

Methods: Samples, Procedures and Measures

Sample 1

Participants. Participants from Sample 1 were used for this study. Please refer to Chapter 2 for a description of the sample and its procedures.

Measures.

Childhood Disorganization and Role Reversal Scale – Initial Version (CDRR: Meier & Bureau, 2011). Please refer to Chapter 2 for information on the development of the CDRR – Initial version.

Sociodemographic questionnaire: Comprehensive version. The author developed this questionnaire for the purposes of this research project. The comprehensive version of this questionnaire consists of two parts. The first part includes questions regarding general

past and current background information (e.g., age, gender, language, childhood family composition, identification of primary maternal and paternal caregiver, current living arrangements). The second part asks participants to identify major family life events (e.g., parental divorce, parental substance abuse) that occurred in childhood.

The childhood risk variables (for objective 5) were derived from the major family life events section of the sociodemographic questionnaire. The development of the list of major life events was based on the studies described earlier on childhood family risk variables related to disorganized/controlling attachment and parentification (Alexander, 2003; Bureau et al 2009a; 2009b; Burnett et al., 2006; Easterbrooks et al., 2012; Finger, 2006; Finger et al, 2009; Goglia et al., 1992; Hetherington, 1999; Jurkovic et al., 2001; Kelley et al., 2007; Kerig, 2005; Martins & Gaffan, 2000; Melnick et al., 2008; Hesse & Main, 2006; Peris et al., 2008; van IJzendoorn, 1995; van IJzendoorn et al., 1999; Winton, 2002). Participants were asked to indicate whether or not they experienced any of the following events in their childhood (i.e., 12 years or younger) by indicating “yes” or “no”: (1) period of mental illness of a caregiver; (2) substance abuse of a primary caregiver; (3) conflict between caregivers; (4) domestic violence between primary caregivers; and (5) divorce or separation of primary caregivers.

Sample 2

Participants. Sample 2 consisted of 656 undergraduate students from the University of Ottawa, ranging between the ages of 16 to 24 (531 females; $M_{age} = 18.68$ years, $SD = 1.29$). The majority of the participants were Caucasian (63.6%), while a minority were Asian (11.4%), Black (7.6%), Middle Eastern (7.6%), Aboriginal/First Nations/Métis (1.4%), Hispanic (1.4%), mixed ethnicity (4.7%) and other ethnicity not listed (1.4%). Most of the

participants were English speaking (72.9%) compared to French (16.3%) or other languages (10.4%). The majority of participants (77.7%) were enrolled in a Social Sciences or Health Sciences/Sciences undergraduate degree. Approximately half of the participants currently lived separately from their parents (57.8%) or resided with their parents (41.8%).

Procedures. The procedures were similar to those of Sample 1. Recruitment occurred between September 2012 and April 2013 (fall and winter semesters). Upon completion, participants received two credits. Participants were informed that the survey would take approximately two hours to complete. The Ethics Board at the University of Ottawa approved procedures involving this sample.

Measures. Participants from this sample completed numerous measures in which some of them were reserved for Study 2. The description of the measures used for Study 1 are mentioned below:

Childhood Disorganization and Role Reversal Scale – Revised Version (CDRR: Meier & Bureau, 2012). The CDRR is a self-report instrument assessing young adults' current perceptions of childhood disorganized, caregiving and punitive attachment towards each parent, as well as mutual hostility (mother only) and appropriate boundaries. The CDRR mother version (62 items) consists of four scales: Disorganization/Punitive, Mutual Hostility, Affective Caregiving, and Appropriate Boundaries. The CDRR father version (70 items) includes four scales: Disorganization, Punitive, Affective Caregiving, and Appropriate Boundaries. Items are rated on a 5-point Likert scale ranging from “*Completely agree/Always*” to “*Not at all/Never*”, whereby higher scores indicate higher levels for each scale. Please refer to Chapter 2 for information on the development of the CDRR.

Relationship with Parents Scale (RPSF/RPSM: Alexander, 2003). This is a 21-item retrospective self-report measure assessing emotional parentification. It includes a mother (RPSM) and father scale (RPSF). Respondents rate their agreement to the items on a 5-point Likert scale ranging from “*Strongly disagree*” to “*Strongly agree*” with scores ranging from 0 to 105. Higher scores reflect higher levels of parentification. Cronbach’s alpha revealed good internal consistency for both scales (Alexander, 2003). Test-retest stability and internal consistency for both scales were adequate and the scale demonstrated good construct validity as greater family cohesion was related to less role-reversed parent-child interactions (Alexander, 2003). In the current sample, both parent scales showed excellent internal consistency (Cronbach’s alpha at .91 for both scales).

The Parentification Inventory (PI: Hooper, 2009). This is a retrospective self-report measure assessing childhood parentified behaviours and perceived benefits related to this role. It consists of three scales: Parent-focused Parentification (PI-PFP), Sibling-focused Parentification (PI-SFP) and Perceived Benefits of Parentification (PI-PBP). The inventory includes 22 items that are rated on a 5-point Likert scale ranging from “*Never true*” to “*Always true*”. The inventory demonstrated adequate internal consistency, cross-validation, and predictive, convergent and divergent validity (Hooper, 2009; Hooper & Doehler, 2012; Hooper, Doehler, Wallace & Hannah, 2011). For this study, only the PI-PFP and PI-PBP scale were used. In the current sample, internal consistency, as assessed by Cronbach’s alpha, was good for the PI-PFP scale (.81), while it was deemed questionable for the PI-SFP scale (.61).

Sociodemographic questionnaire: Short version. The author developed the sociodemographic questionnaire for this research project. The comprehensive version of this

questionnaire consists of two parts; however, only the first part of the questionnaire was used for this study. The first part includes questions regarding past and current background information (e.g., age, gender, language, childhood family composition, identification of primary maternal and paternal caregiver, current living arrangements).

Sample 3

Participants. Sample 3 consisted of 96 participants between the ages of 17 to 26 ($M_{age} = 19.27$, $SD = 2.13$; 81 females). The sample was derived from two distinct sample pools, a subsample of students from Sample 1 ($n = 27$) and Sample 2 ($n = 50$), and participants ($n = 19$) recruited from the community as the sample size of Sample 1 was low. The majority of the participants were Caucasian (65.6%), while a minority were Asian (13.5%), Black (9.4%), Middle Eastern (2.1%), Hispanic (1.0%), mixed ethnicity (7.3%) and other ethnicities not listed (3.1%). The majority of the sample (77.1%) identified English as their primary language, with a minority selecting French (13.5%) or another language (9.4%). Almost 40% of participants were living at home with their parents, while the remaining participants lived independently from their parents.

Procedure. Upon completion of the questionnaires, participants from Samples 1 and 2 were invited to participate in the second phase of the study. Participants from Sample 1 who agreed to participate were asked to provide their University of Ottawa email address to be contacted within 3 to 4 months following their initial participation and they were informed that their contact information would be kept in a confidential manner. Given the difficulty to contact participants using their University of Ottawa email address, participants from Sample 2 were asked to indicate their preferred email address, and these addresses were stored in a confidential manner. At the 3 to 4 month period, interested participants were

contacted through email to complete the CDRR questionnaire through Fluidsurveys and reminder emails were provided for participants that did not complete CDRR questionnaire at the second phase of the study (Time 2). Participants had the opportunity to place their names for a chance to win one of three fifty-dollar cash prizes through a random draw.

From the community, participants between the ages of 18 to 25 were recruited through online advertisements (i.e., Kijiji, Facebook). Recruitment consisted of two waves that occurred between June 2012 to May 2013. Participation consisted of completing the CDRR at two different time points within a 3 to 4-month interval. Participants also had an opportunity to win one of three fifty-dollar cash prizes through a random draw for participation at each time point. Please refer to the description of the CDRR mentioned within the Sample 1 section. The Ethics Board at the University of Ottawa approved the procedures involving this sample.

Results

Objective 1: Structural Stability of the CDRR Scales

Two confirmatory factor analyses (CFA) were conducted to assess the structural stability of the CDRR mother and father versions. Hu and Bentler (1999) recommended evaluating different properties of the CFA solution to assess for the model's goodness of fit. As such, guided by Kline's recommendations (2005), this study selected a variety of goodness of fit statistics including the following: normed chi-squared (CMIN/DF), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), Tucker-Lewis index (TLI), comparative fit index (CFI) and relative noncentrality index (RNI). For the CMIN/DF, values below 5 suggest an adequate fit to the model, while values below 3 suggest a good fit to the model (Kline, 2005; Schumacker & Lomax, 2004).

For the RMSEA, values below .08 suggest an acceptable goodness of fit to the model, while values below .05 suggest a better fit to the model (Browne & Cudeck, 1993). For the SRMR, values below .10 suggest an adequate fit to the model, while values below .05 suggest a good fit to the model (Hu & Bentler, 1999). For the CFI, TLI and RNI, values greater than .90 suggest an adequate fit to the model and values greater than .95 suggest a good fit (Hu & Bentler, 1999). The aforementioned statistics have been found to adequately measure model misspecification and they are less impacted by sample size in comparison to other statistics (Jackson & Gillaspay, 2009).

Moreover, based on the final model of the principal components analysis (PCA), Figures 3.1 and 3.2 depicts the hypothesized models that were tested for the mother and father versions. It was hypothesized that the factor structure of the PCA final model (for both parents) derived from Sample 1 would fit well with the data in Sample 2. Moreover, it was expected that the factor loadings would be similar to the original PCA and that parameter estimates would be theoretically sound.

Data cleaning and assumptions testing. Sample 2 was used for this current objective. First, the data were cleaned. Participants that completed less than 50% of the CDRR questionnaire were eliminated from the dataset. Twelve participants that responded in a careless manner were deleted. There were 13 participants that completed only the mother scale. This resulted in a sample size of 656 participants for the mother version and 643 participants for the father version.

Second, the data were screened for univariate and multivariate outliers. As the purpose of the CDRR was to assess for pathological attachment representations that are less prevalent in the population, it was deemed beneficial to retain a certain degree of extreme

scores. Upon inspection of the histograms, box-plots, and z-scores, and Mahalanobis distances, 13 multivariate outliers were found for the mother version and 10 were found for the father version. Two participants were deleted as they severely deviated from the rest of the sample (i.e., z score ± 3.29). The first participant responded in a careless manner and the second participant had the highest Mahalanobis distance score (79.76) that far exceeded the cut-off score $\chi^2(12) = 32.91, p < .001$. Moreover, with the removal of the second outlier, the CFA goodness of fit indices reduced in magnitude, providing support for the removal of this participant.

Third, “parcels” were created for each CDRR scale and were used as the unit of analysis. Parcels are created by averaging the sum of two or more items (Little, Cunningham, Shadar, & Widaman, 2002; Worthington & Whittaker, 2006). Moreover, they avoid psychometric and statistical problems resulting from performing a CFA at the item-level, such as violating factor analysis assumptions (e.g., linearity, normality, and association between items), and having inadequate fit indices due to having many parameters (see De Bruin, 2004; Hall, Snell, & Foust, 1999; Kishton & Widaman, 1994; Little et al., 2002). As the CDRR scales had a large scope within their construct domains, parcels were created to equally represent the scope of the factors by first identifying sub-domains for each factor and then randomly assigning items to parcels based on the sub-domain and factor loading. This process combines the domain representative approach and the item-to-construct balance approach (Kishton & Widaman, 1994; Little et al., 2002).

Fourth, responses from the CDRR were screened to identify missing data. There were low levels of missing data on the CDRR mother and father versions at the parcel (ranging between .2% to 3.0% for mothers and .6% to 4.7% for fathers) and item level (overall 1.5%

missing for mothers and 2.5% missing for fathers). Given the low percentage of missing data, imputation involving the estimated maximization (EM) method was used. Lastly, it was expected that the distribution of the data would be skewed as the CDRR aims to assess for pathological attachment representations. As such, Kline's (2005) more liberal guideline for assessing normality when conducting a CFA or Structural Equation modeling (SEM) was used for this study. Skewness values above 3 and kurtosis scores above 10 indicate severe non-normality. The CDRR parcels did not violate the assumptions of normality.

Main analyses. A CFA using maximum likelihood estimation for each parent version was conducted to cross-validate the factor structures derived from the initial PCA using AMOS (Version 22), a statistical software.

Upon examination of these goodness of fit statistics, the four-factor model showed adequate to good fit to the data for both the CDRR mother version: $\chi^2(48) = 249.45$, $p < .001$, CMIN/DF = 5.20; RMSEA = .08; SRMR = .06; TLI = .94; CFI = .96; RNI = .95, and the CDRR father version: $\chi^2(48) = 228.33$, $p < .001$, CMIN/DF = 4.76; RMSEA = .08; SRMR = .06; TLI = .95; CFI = .96; RNI = .95.

Overall, standardized factor loadings for the CDRR mother and father versions, as shown in Figures 3.3 and 3.4, demonstrated similar parameter estimates to the results observed in the original PCAs, yielding strong support for the four-factor structure. Although, it should be noted that the factor loading of Parcel 3 on the Appropriate Boundaries father scale was noticeably low. The strength and direction of associations among the CDRR scales were similar between the PCA and CFA, with the exception of a few pairings. For the CDRR mother version, the Mutual Hostility scale was more strongly related to the Appropriate Boundaries scale in the CFA ($r = -.27$, $p < .001$) than in the PCA

($r = -.12, p < .01$) For the CDRR father version, the Affective Caregiving scale was weakly related to the Appropriate Boundaries scale in the CFA ($r = .11, p < .05$), while it was not significantly related in the PCA ($r = -.02, n.s.$). The Disorganization and Appropriate Boundaries scales were more strongly related in the CFA ($r = -.46, p < .001$) than in the PCA ($r = -.26, p < .001$).

Objective 2: Internal Consistency of the CDRR Scales

Using Sample 1, Cronbach's alphas and average inter-item correlations were calculated to determine the internal consistency, or amount of inter-relatedness, for each CDRR mother and father scale. A Cronbach's coefficient alpha above .70 suggests good internal consistency for newly constructed scales (Nunnally & Bernstein, 1994), and a value above .90 may be indicative of item redundancy. Average inter-item correlations between .20 to .29 suggest substantial evidence of internal consistency, and a value at or above .30 suggests extensive evidence of internal consistency (Robinson, Shaver & Wrightsman, 1991).

Main analyses. All CDRR scales for both parent versions demonstrated alpha levels above .70; however, the Disorganization/Punitive mother scale and the Disorganization and Affective Caregiving father scales were above .90, suggesting that items within these scales may have redundant items. For both parent versions, the average inter-item correlations for all scales met the specified criteria, indicating adequate inter-relatedness among the items' contents. Overall, the CDRR scales demonstrate adequate internal consistency for this given sample. Please refer to Tables 3.1 and 3.2 for alpha and average inter-item values for each parent version.

Objective 3: Temporal Stability of the CDRR Scales

The current study assessed for both forms of temporal stability by calculating Pearson's product-moment correlation coefficient for relative stability, and intraclass correlation coefficient (ICC) for absolute stability. A two-way mixed ANOVA model (ICC3,1) was used for this study as it is assumed that the testing time interval is a fixed effect and that it is not generalizable to other time intervals (V. Huta, personal communication, June 6, 2014). This model is also more conservative than the two-way random model (McGraw & Wong, 1996; Portney & Watkins, 2009). Two values are reported when computing ICC values, Single Measure ICC and Average Measure ICC. The single measure ICC value was reported in this study as the CDRR was administered on a single use basis versus averaging the scores from two or more testing periods (McGraw & Wong, 1996). For the two reliability indexes (Pearson's r and ICC), a value of .00 to .10 indicates minimal reliability, a value of .11 to .40 indicates slight reliability, a value of .41 to .60 indicates fair reliability, a value of .61 to .80 indicates moderate reliability and a value of .81 to 1.0 indicates substantial reliability (Shrout, 1998).

Data cleaning. This objective used data from Sample 3. Data imputation using Estimation Maximization (EM) was used for all CDRR scales as missing data were below 1.5% for the scales of the CDRR mother version and 3% for the scales of the CDRR father version. Scales that were skewed were successfully transformed using square-root transformation (Disorganization father scale) and log-linear transformation (Disorganization/Punitive mother scale, Affective Caregiving father scale). No other scales violated assumptions of normality. Outliers on the CDRR scales were assessed using a cut-off of $z = \pm 3.29$. Only one outlier was found (Mutual Hostility mother scale at Time 1). It was decided not to remove the participant as he/she only had an extreme score on one of four

scales for the mother version. Scatterplots revealed that all variable pairings showed a linear relationship.

Preliminary analyses. As Sample 3 consists of two distinct subsamples, a ISPR group and a community group, it was important to determine if they differed on sociodemographics variables (i.e., age, gender, ethnicity, primary language, childhood family structure, marital status, highest educational attainment, and current accommodations) and on the CDRR scales prior to using the aggregated sample. For continuous variables, a one-way ANOVA was performed to determine if the subsamples of Sample 3 differed on these variables. Chi-Square tests were conducted for categorical sociodemographic variables. Response categories for most categorical variables were collapsed to increase cell size to meet the requirement of 5 participants per cell. The Fisher Exact Test was used for variables that had less than 5 participants per cell. No differences were found between the two groups in regards to gender (using Fisher's Exact Test), ethnicity (using Fisher's Exact Test), primary language (using Fisher's Exact Test), childhood family structure (using Fisher's Exact Test), marital status, current accommodations, or time interval between testing points. The subsamples did not differ on the CDRR mother and father scales at either time point (e.g., pre or post). The community group ($M_{age} = 21.53$, $SD = 3.01$) was older than the ISPR group ($M_{age} = 18.71$, $SD = 2.13$), $F_{Welch}(1,19.92) = 15.84$, $p < 0.001$. Consistent with the participants' older age within the community group, this group also had higher educational attainment than the ISPR group, two-tailed Fisher's Exact Test, $p < .001$. It can be concluded that the two groups of Sample 3 are quite similar across various sociodemographics, with the exception of age and educational attainment; however, as the average age difference between

both groups was less than 3 years it seemed acceptable to combine these two groups to form one larger sample to assess for the temporal stability of the CDRR.

Furthermore, analyses were performed to determine if there were significant differences on sociodemographic variables (i.e., age, gender, ethnicity, childhood family problems, childhood family structure, marital status, current accommodations) between participants that were recruited from ISPR that partook in the temporal reliability study ($n = 77$) from those that did not ($n = 1305$), as well as participants recruited from the community that completed both Time 1 and Time 2 ($n = 19$) from those that only completed Time 1 ($n = 20$). It was also examined if there were differences on the CDRR scales between participants that completed both Time 1 and Time 2 to those that only completed Time 1. Using a t -test, no age differences between the groups were found. A one-way ANOVA revealed no group differences on the CDRR mother and father scales, with the exception of the Disorganization father scale, where the retest group had a higher score ($M = 75.82$, $SD = 28.18$) than the non-retest group ($M = 68.25$, $SD = 24.49$), $F(1,1361) = 6.29$, $p < 0.05$. Chi-Square tests were conducted for categorical variables that were collapsed into binary variables. The Fisher Exact Test was used for variables that had less than 5 participants per cell. No significant group differences were found. Overall, the results suggest that participants that did not complete the retest were not significantly different than participants who completed the measures at both testing periods.

Main analyses. Tables 3.4 and 3.4 present the Pearson's product-moment correlation coefficients between CDRR mother and father scales at Time 1 and Time 2 (Mean time interval = 112.41 days, $SD = 42.36$ days). The tables also present the Absolute Agreement intraclass correlation coefficients for single measures using the two-way mixed ANOVA

model for each CDRR scale. Overall, for the CDRR mother version, the Disorganization/Punitive and Mutual Hostility scales demonstrated excellent temporal reliability and the Affective Caregiving and Appropriate Boundaries scales demonstrated moderate temporal reliability. For the CDRR father version, the Disorganization scale demonstrated excellent temporal consistency, while the Punitive, Appropriate Boundaries and Affective Caregiving scales demonstrated moderate temporal reliability. Overall, the CDRR demonstrated adequate temporal stability for both parent versions, even with a broader testing interval of 3 to 4 months.

Objective 4: Convergent and Discriminant Validity of the CDRR Scales

Convergent and discriminant validity were assessed for the Affective Caregiving mother and father scales. Discriminant validity was assessed for the Appropriate Boundaries mother and father scales. The remaining scales lacked existing conceptually similar self-report measures to perform convergent and discriminant validity analyses. As such, Objective 5 of this study and Study 3 explored these scales associations' to other theoretically and empirically related variables (as well as the other scales). It was expected that there would be a positive association between the Affective Caregiving scales and existing measures on parentification, namely, the Parent-focused Parentification scale of the Parentification Inventory (Hooper, 2009) that assesses for instrumental and emotional parentification towards both parents, and the Relationship with Parents Scale (RPSE/RPSM; Alexander, 2003) that assesses for emotional parentification towards each parent separately. Pearson product-moment correlation coefficients were calculated, whereby a correlation of +/- .1 to .3 indicates a small magnitude, +/- .3 to .5 indicates a medium magnitude and +/- .5 to 1.0 indicates a large magnitude (Cohen, 1988). Of the limited validation studies within the

parentification and role reversal literature, correlation coefficients ranging from .44 to .68 were found between the Parentification Inventory (Hooper, 2009), Parentification Scale (Mika, Bergner & Baum, 1987) and the Parentification Questionnaire (Jurkovic & Thirkield, 1998) (Hooper et al., 2011; Hooper et al., 2012). Using those results as a basis for evaluating the magnitude of the correlation coefficient for validity testing, a value of .44 or greater was used to indicate adequate convergent validity.

For discriminant validity, it was expected that sibling-focused parentification would be related to the Affective Caregiving scales; however, to a lesser extent than parent-focused parentification. It was expected that the Appropriate Boundaries scales would be negatively related to reports of childhood parentification as a parentified parent-child relationship is defined as lacking proper parent-child boundaries. No previous studies on appropriate boundaries have assessed for discriminant validity, as such, discriminant validity was based on finding a negative or a minimal association between the Appropriate Boundaries scales and parentification measures.

Data cleaning. Prior to the main analyses, the data from Sample 2 were cleaned and screened for missing data, outliers, normality, and linearity. The 11 cases that did not complete at least 50% of the parentification measures were deleted, resulting in a total of 645 participants. Thirteen cases did not complete the CDRR father version, as such the sample included 632 participants for analyses with the CDRR father version. As the percentage of missing data for all the measures (CDRR scales: Affective Caregiving and Appropriate Boundaries scales; PI scales: PI-PFP and PI-SFP; RPSF and RPSM scales) used for these analyses were below 4%, missing data were imputed using Expectation Maximization (EM) method. Outliers were detected at $z = \pm 3.29$ (10 outliers on the CDRR scales; 10 outliers

on the PI scales; 7 outliers on the RPSM/RPSF scales). For identified outliers, the raw mean score was substituted with the highest or lowest mean score below the cut-off point to detect outliers. Skewed variables were successfully normalized using square-root transformations (Affective Caregiving father scale) and log transformations (RPSF and RPSM scales). All variable pairings of interest demonstrated linearity.

Main analyses. As seen in Tables 3.5 and 3.6, the Affective Caregiving mother and father scales of the CDRR demonstrated adequate convergent validity, with statistically significant correlation coefficients above the cut-off value of .44, with the exception of the RPSM scale that showed a moderate association and neared the cut-off value. The Affective Caregiving father scale demonstrated a strong association to the parentification measures and the Affective Caregiving mother scale showed a moderate to strong association to those measures. Discriminant validity for the Appropriate Boundaries mother and father scales were supported by finding significantly negative correlations or non-significant correlations to all parentification measures. As predicted, the association between the Affective Caregiving mother and father scales and the sibling-focused parentification scale were moderate and positive in nature. A web calculator (Lee & Preacher, 2013) was used to test the statistical difference between two correlations within the same sample that share a variable in common by conducting Steiger's Z (1980) test. As hypothesized, it was found that the Affective Caregiving mother and father scale had a larger association to parent-focused parentification than to the sibling-focused parentification (Steigner's $Z_{\text{mother}} = 6.24$, $p < .001$, two-tailed; Steigner's $Z_{\text{father}} = 7.80$, $p < .001$, two-tailed). However, these results should be interpreted with caution given that the internal consistency of sibling-focused

parentification measure in the current sample was deemed questionable (Cronbach's $\alpha = .61$).

Objective 5: Criterion-Related Validity of the CDRR Scales

Given the strong theoretical and empirical link between childhood risk and disorganized and controlling attachment, the coherence of the CDRR scales to childhood risk were examined to further investigate the scales' validity. In order to reduce to chances of Type I error (Tabanick & Fidell, 2007), a MANOVA was performed for each CDRR parent version, with childhood risk variables as the independent variables and CDRR scales as the dependent variables.

Data cleaning and assumption testing. The dataset from Sample 1 was further cleaned from the original dataset. The dataset was screened to identify cases with significant amount of missing information on the CDRR (25% or more is missing); twenty-two cases that completed less than 75% of the CDRR were deleted. As such, the revised dataset contained a total of 728 individuals, in contrast to 750 from the original dataset. As some participants completed only the CDRR mother or father version, the sample size was reduced to 726 participants for analyses with the CDRR mother version and 723 participants for the CDRR father version. As the proportion of missing data was quite low (below 2% for both CDRR parent versions), Estimation Maximization (EM) was used to impute missing data at the item level.

The assumptions for conducting a MANOVA were examined with grouped data (CDRR scales grouped by childhood risk variables). Multivariate normality was inferred from univariate normality, which was assessed through the examination of skewness and kurtosis scores and normality plots. The scales identified as positively skewed were

successfully normalized using square root transformations (Punitive father scale) and log transformations (Disorganization/Punitive mother scale; Mutual Hostility mother scale, Disorganization father scale; Affective Caregiving father scale). A more liberal cut-off point was selected when finding univariate outliers, as the goal of the study was to explore less common forms of attachment representations. As such, cases with a z score greater than ± 3.29 were identified as univariate outliers. No univariate outliers on the dependent variables were detected. No multivariate outliers on the dependent variables were found using Cook's distance with a cut-off score above 1. Three multivariate outliers were found on the CDRR father version using the Mahalanobis distance statistic with a cut-off score $\chi^2(3) = 16.27, p < .001$. The cases were retained as they were near the cut-off point and as the Cook's distance value was not above 1.

All the predictor variables (childhood risk) were dichotomous, with the exception of the variable on family income. The distributions of the predictor variables showed a split less than 90-10, with the exception of the substance abuse variable (6.30% of the sample reported "yes" that their parent(s) had substance abuse problems) and domestic violence variable (4.5% of the sample reported "yes" that their parents experienced domestic violence). The substance abuse variable was retained as the sample size of the smallest cell was over 20 participants suggesting that it can generalize to the population mean (V. Huta, personal communication, July 10, 2015). It was also kept due to its theoretical interest. As the family life event of "Domestic violence" was infrequently endorsed, it was combined with "Marital conflict" as they had a similar pattern of results on the MANOVA. The family childhood risk variable on family income was dichotomized as the cell numbers were low. The response

“Sometimes” or “Often” was coded as “Income problems”, and “Never” or “Don’t know” was coded as “No income problems”.

The assumption of homogeneity of variance was not violated when using the $F_{\max}$ test. Using Cohen’s (1988) interpretation guidelines on correlation coefficients, most variables were moderately related to one another and tolerance statistics of the dependent variables were all above .20, which suggests the absence of multicollinearity (Field, 2009). The assumption of linearity was not violated among the dependent variables. As seen in Tables 2.3 and 2.4, given the low to non-significant associations between the Appropriate Boundaries scale to the other scales, this scale was deemed as not a good candidate for a MANOVA as it did not meet the requirement of the dependent variables being moderately related to each other in order to create a composite score. Factorial ANOVA analyses were conducted separately for the Appropriate Boundaries mother and father scales and childhood risk variables.

Main analyses. As presented in Tables 3.7 and 3.8, the omnibus multivariate tests found that all five childhood risk variables, namely, divorce, financial problems, parental mental health, parental substance abuse, and domestic conflict/violence, significantly accounted for variations on the composite controlling/disorganized attachment variable, with the exception of divorce which was not related to the CDRR mother scales. When examining the univariate tests, on both CDRR parent versions, parental domestic conflict/violence and parental mental health problems were related to all disorganized and controlling scales. Financial problems were related to the disorganization scales, Affective Caregiving mother and father scales and to the Mutual Hostility mother scale. Parental substance abuse was related to the disorganization scales and to the Mutual Hostility mother scale. As seen in

Tables 3.9 and 3.10, scores on the Appropriate Boundaries mother and father scales were less associated to childhood risk variables than the disorganized and controlling CDRR mother and father scales. Only financial problems, substance abuse and divorce (father only) were related to lower scores on the Appropriate Boundaries scales.

Discussion

The attachment literature lacks a convenient self-report measure that assesses for young adults' current perceptions of childhood disorganized and controlling attachment. The purpose of this research project was to respond to this need by developing the *Childhood Disorganization and Role Reversal scale (CDRR)*. The current study aimed to establish the psychometric properties of the CDRR; namely, structural stability through confirmatory factor analyses (CFA), internal consistency, test-retest reliability, convergent and discriminant validity (specific to the Affective Caregiving and Appropriate Boundaries scales) and criterion-related validity. Importantly, unlike other measures of attachment that contain the same items and scales for mothers and fathers, the scales of the CDRR parent versions were independently developed for mothers and fathers to determine items and scales specific to each parent-child dyad.

From the initial principal components analyses (PCA), a four-factor structure emerged for both CDRR parent versions. The CDRR mother version includes the following scales: Disorganization/Punitive, Affective Caregiving, Mutual Hostility and Appropriate Boundaries. The CDRR father version includes the following scales: Disorganization, Affective Caregiving, Punitive and Appropriate Boundaries. Using a different sample from the original PCA, a CFA was performed for each parent version and the results provided support for the structural stability of the four-factor structure for both parent versions. The

CDRR parent versions were also found to be internally consistent and to demonstrate moderate to excellent 3 to 4-month temporal reliability. Support was provided for the convergent and discriminant validity of the Affective Caregiving mother and father scales by using existing parentification measures. It was also found that the Appropriate Boundaries mother and father scales were minimally or not associated to reports of childhood parentification, demonstrating evidence of discriminant validity. With respect to criterion-related validity, the childhood risk variables consisting of divorce, financial problems, parental mental health, parental substance abuse, and domestic conflict/violence were related to higher scores on the disorganized and controlling CDRR scales (with the exception of divorce and the CDRR mother version). The risk variables of divorce, financial problems and parental substance abuse were generally related to lower scores on the Appropriate Boundaries mother and father scales. Consistent with attachment theory, the disorganized and controlling attachment scales, namely, Disorganization (father), Disorganization/Punitive (mother), Affective Caregiving (mother and father), Punitive (father) and Mutual Hostility (mother), were positively associated to one another on both CDRR parent versions. Higher scores on the Appropriate Boundaries mother and father scales were negatively or not related to the disorganization and controlling attachment scales. Overall, preliminary support was provided for the reliability and validity of the CDRR with the population used. Although a general pattern of results suggested adequate reliability of the CDRR, some elements of the CDRR may need further exploration using another sample. These will be addressed in the limitations section.

The CDRR was developed based on the premise that children experience some aspects of their relationship with mothers and fathers differently. As such, factors were

developed independently for each CDRR parent version. Although both parent versions had a four-factor structure that included components of disorganization, punitive, caregiving and appropriate boundaries, the factors also contained distinct elements and unique item combinations. The emergence of unique parent scales supports the idea that young adults' hold different attachment mental representations with their mothers and fathers, and more importantly, that having similar attachment mental representations, such as reporting emotional caregiving or appropriate boundaries with parents, may be expressed differently depending on the gender of the parent.

For instance, the content of the Affective Caregiving scales, which measure young adults' perceptions of providing emotional care to their parents in childhood, had similarities and differences between the parent versions. Within the mother-child relationship, participants scoring higher on this scale appeared to internalize their caregiving stance as a positive role (e.g., "I felt at my best when I could help my caregiver"), were hypervigilant towards their mother's affective state (e.g., "I was attentive to how my caregiver was feeling"), and suppressed their attachment system in order to attend to their mother's needs (e.g., "I dealt with my own distress by lowering the distress of my caregiver"). The mother appeared to engage their child in caregiving behaviours, such as being "best-friends" with their child or confiding in them on personal matters.

Caregiving towards father involved similar elements reported within the mother-child relationship, such as suppression of their attachment needs to care for their father, internalization of the caregiving role and the father engaging their child in a caregiving role. However, it also involved unique elements, such as the individual feeling pressure and responsibility to provide emotional and physical care to their fathers, perceiving the

expectation to know their father's emotional state, feeling enmeshed with the emotional state of their father (e.g., "It seemed like my world would crash when my caregiver was not happy") and sometimes having to physically control their father (e.g., "If my caregiver was out of control, I would physically try to control him/her"). Given these differences, caregiving for fathers, in contrast to mothers (e.g., feel like best friends, feel positive in providing care), seems to be perceived as more emotionally burdening and lacking positive elements. The notion of feeling burdened by caring from parents was also found in another study on current compulsive caregiving towards parents in young adults (Meier et al., 2014). The study found that participants who currently felt burdened and overwhelmed by the personal needs of their parent, in contrast to those being able to distance themselves from their parent's needs, had greater psychological difficulties and experienced more family risk in childhood. It is unclear why these differences among the CDRR parent versions occurred and it would be helpful for future studies to conduct a qualitative study to clarify these results. For instance, do caregiving children tend to protect their mothers by underreporting feelings of burden and pressure or are the mechanisms and consequences of caregiving towards mothers and fathers truly different? Alternatively, as the majority of the participants in this study are females, these differences may be more related to differences found among father-daughter and mother-daughter relationships. With a larger sample size of male participants, it would be useful to determine if the differences in affective caregiving are also apparent in father-son and mother-son relationships.

Another difference between the CDRR parent versions was the manifestation of disorganized attachment representation among mother-child and father-child relationships. Within the mother-child dyad, participants with elevated scores on the

Disorganization/Punitive scale perceived their mother as immature, incompetent with parental duties, lacking warmth and care, abusive, needing emotional support, and odd. Whereas, within the father-child dyad, participants with elevated scores on the Disorganization scale perceived their fathers, like their mother, as immature, odd, and abusive. However, unlike for mothers, participants scoring high on this scale also perceived their fathers as frightening, disappointing, experiencing emotional problems, and being vulnerable. Most strikingly, disorganization with mothers involved the display of punitive behaviours, such as taking charge, being harsh, depicting their mother in a negative manner and protecting themselves. Bureau and colleagues (2009a) observed that in a sample of mother-child dyads that punitive attachment and disorganization were sometimes combined. The unique combination of punitive and disorganized attachment representations in regards to children's relationship with their mothers needs to be explored in future studies. For instance, do children feel less intimidated by disorganized mothers, leading them to engage in more controlling behaviours towards their mothers than with their fathers?

An unanticipated outcome from this study was the emergence of the Mutual Hostility scale on the CDRR mother version. This scale measures young adults' perceived level of verbal conflict within the mother-child dyad in childhood and feelings of frustration and hostility towards their mothers. This scale shares items from the Punitive scale on the father version that focuses mostly on hostile behaviours towards parent directed by the child. However, unlike the Punitive scale, the Mutual Hostility scale includes items indicating a reciprocal pattern of hostile behaviours between parent and child. Although this scale was unexpected it is consistent with attachment theory. For instance, the Goal-Corrected Partnership in Adolescence Coding System (GPACS: Lyons-Ruth, Hennighausen & Holmes,

2005), an observational measure assessing for disorganized and controlling attachment in adolescence, includes the assessment of a reciprocally punitive strategy in which a parent and child attempts to control their interactions through the expression of hostile, attacking or punishing statements. The reciprocal nature of this strategy is similar to the Mutual Hostility scale; however, it seems to lack the feature of expressing hostility for the purpose of *controlling* the parent. Additionally, if items on the Punitive and Mutual Hostility scales are examined within the context of traditional gender roles, where fathers are perceived correctly or incorrectly as having a greater role in imparting knowledge to their children and mothers as being the more nurturing parent, then the indication of a parent failing to meet these social expectations could be viewed as demeaning or embarrassing the parent, which are characteristics of punitive attachment. Interestingly, the Punitive scale includes items presenting the father as incompetent and the child perceiving him/herself as more knowledgeable than their father (e.g., “I would lecture my caregiver if he/she did something I did not agree with”). The Mutual Hostility scale includes items that describe the mother as having difficulties to comfort her child and the child being frustrated with his/her mother (e.g., My caregiver could make me very upset”). If conceptualized using traditional social norms, the Mutual Hostility scale could be reflective of punitive behaviours, as some items indicate a lack of maternal warmth and nurturance.

Alternatively, the differences between the Mutual Hostility and Punitive scales appear to be in accordance with Cassidy and Marvin’s (1992) observation of the differences between the attachment behaviours of ambivalent-resistant and controlling-punitive preschoolers. The authors noted that although both attachment patterns may involve children’s hostile behaviours such as frustration, annoyance and acting-out behaviours

towards their parent, which may appear to serve the purpose of *controlling* the parent, ambivalent-resistant children engage in these behaviours due to their dependent and “entangled” nature with their parent and their perception that their parent has control over him/her. Unlike ambivalent-resistant children, controlling-punitive preschoolers engage in hostile behaviours that seems to suggest that they feel “superior” to their parent and feel that they have control over their interactions (p.37). Similarly, in Solomon, George and DeJong (1995)’s Doll Play attachment coding system based on attachment-related doll play narratives, the narrative of preoccupied children (similar to ambivalent-resistant attachment) included characters in the story expressing anger and being feisty towards one another. As such, given the distinction of exhibiting hostile behaviours for the purpose of control versus dependency, it seems that the Mutual Hostility scale may be a reflection of aspects of preoccupied or anxious attachment. As such, the Mutual Hostility scale appears to be supported by the attachment literature; however, it is unclear if it is more consistent with preoccupied or punitive attachment. In order to determine what type of attachment pattern it captures (or if it does not), it is suggested that future studies determine the association between the Mutual Hostility scale to existing measures on attachment that assess for dismissing and preoccupied attachment and to examine if the associations are similar to or different from the Punitive scale.

Another surprising outcome from the PCA was the emergence of the Appropriate Boundaries mother and father scales. Although this study did not plan to develop a scale measuring for positive attachment mental representations, the CFA found the Appropriate Boundaries scales to be fairly stable for both parent versions. The emergence of these scales also fits well with the concept of attachment security. These scales are an important feature

to the CDRR, as parent-child boundary dissolution or inappropriate boundaries may lead to psychological problems (see Kerig, Swanson & Ward, 2012), while appropriate boundaries between parent and child strengthens the child's sense of autonomy, individuality and belonging (Minuchin, 1974). Given the breadth of coverage across the scales, the CDRR has the potential to assess for both pathological and healthy forms of attachment representations in young adults.

Interestingly, young adults' notion of a healthy parent-child relationship varied depending on mothers and fathers. For the father-child dyad, appropriate boundaries was conceived within a context of a youth reporting warmth and care towards a father who appeared fair, concerned for the child's well-being, and was able to set appropriate limits. For the mother-child dyad, appropriate boundaries was perceived as a mother who was not emotionally dependent on her child, was appreciative of her child and was able to set appropriate limits. In turn, the child did not feel dysregulated from their mother's emotional state. These results suggest that young adults' perception of a potentially healthy relationship with their fathers involves the notion of mutual caring and setting appropriate limits. Whereas, for the mother-child dyad, key features to a potentially healthy relationship involved the absence of emotional dependency and the presence of appropriate limit setting on the part of the mother, and lack of hypervigilance on the part of the child. Moreover, these differences are consistent with the gender differences found on the Mutual Hostility and Punitive scales where it could be interpreted that there is an expectation that fathers ought to be in control and mothers should be nurturing and caring.

Limitations

Although this study has made unique contributions in the attachment field in attempting to fill the void on convenient measures of disorganization and controlling attachment representations in young adults, it does present with some limitations. The first limitation concerns the use of a convenience sample of undergraduate students enrolled in an introductory psychology course. Concerns have been raised over generalizing results attained from a student sample to the normative population as some studies have found differences in their attitudes and behaviours from the normative population (see Henrich, Heine & Norenzayan, 2010). It would be important to replicate the factor structure of the CDRR with a normative sample to determine the generalizability of these findings. The limited age range of this sample, namely, young adults, does not allow the CDRR to be used with adolescents, a population that is under-studied within the attachment literature. Although the convenience sample was primarily selected for reasons of time efficacy, studying young adults was seen to be more advantageous than adolescents as the period of adolescence involves dramatic changes to the attachment system, such as holding a representational attachment with increased cognitive abilities, gaining the capacity to become aware of attachment relationships and to evaluate them, negotiating for more independence from attachment figures and transitioning from parent to peer attachment relationships (Allen, 2008). As adolescence involves a period of dramatic shifts and changes in attachment, self-reports of young adults on their attachment patterns are assumed to be more stable and to provide a better reflection of the evolved changes in their attachment system.

The second limitation regards the development of the CDRR. Although, a strength of the CDRR is the development of unique mother and father scales through separate PCAs, the items included in the PCAs were based on the attachment and parentification literature which primarily focused on the mother-child dyads. As such, there may be aspects of the father-child attachment that are not assessed by the CDRR. In regards to item development, the CDRR used negatively worded items, a recommended practice in traditional scale development to increase item discrimination (Nunnally, 1967). However, studies have shown this practice leads to reliability issues and to the creation of a false factor of negatively worded items (Hinkin, 1995; King, 2005). Another shortcoming of this study is that the first scale for both parent versions was much larger than the remaining factors that accounted for 4% to 8% of the variance. These smaller factors were retained as they provided clinically relevant and unique information. Additionally, the CFA provided support for the stability of the four-factor structure using another sample. Another limitation involves differences in the presentation of the CDRR items between samples, whereby Sample 2 received a shortened version of the CDRR based on revisions from the PCA from Sample 1 that may have potentially influenced participants' reactions to the scale. Lastly, this study is also limited in the assessment on the convergent and discriminant validity of the scales (e.g., Punitive, Mutual Hostility, Disorganization/Punitive, Disorganization) that lacked existing similar self-report measures as a comparison point. It would be beneficial in future studies for these scales to be validated, preferably, with the use of observation-based measures.

Conclusions

This is the first study of its kind to develop a comprehensive self-report measure assessing for disorganized and controlling attachment representations in young adults. The

development of the CDRR corresponds with recent endeavours of attachment scholars attempting to understand the unique contributions that fathers and mothers provide to the development of their child's attachment. Overall, the CDRR was found to hold adequate psychometric properties with the given population. The emergence of separate factors and items for each parent gender allows for the unique analysis of young adults' attachment representations in respect to their mothers and fathers. It also provides initial support of the unique and complementary roles of mothers and fathers on their child's attachment. This study also highlights the importance for future research to be cognizant that young adults perceive different relationships with their mothers and fathers.

References

- Alexander, P. (2003). Parent-child role reversal: Development of a measure and test of an attachment theory model. *Journal of Systemic Therapies*, 22, 31-44.
doi:10.1521/jsyt.22.2.31.23349
- Allen, J. P. (2008). The attachment system in adolescence. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 419-435). New York, NY: Guilford Press.
- Brown, T. (2006). *Confirmatory factor analysis for applied research*. New York, NY: Guilford Press.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing Structural Equation Models*. Newbury Park, CA: Sage.
- Bureau, J.-F., Easterbrooks, A., & Lyons-Ruth, K. (2009a). Attachment disorganization and controlling behaviour in middle childhood: Maternal and child precursors and correlates. *Attachment & Human Development*, 11, 265-284.
doi:10.1080/14616730902814788
- Bureau, J.-F., Easterbrooks, A., & Lyons-Ruth, K. (2009b, April). *The association between middle childhood controlling and disorganized attachment and family correlates in young adulthood*. Paper presented at the biennial meeting of the Society for Research in Child Development, Denver, CO.
- Burnett, G., Jones, R. A., Bliwise, N. G., & Ross, L. T. (2006). Family unpredictability, parental alcoholism, and the development of parentification. *The American Journal of Family Therapy*, 34, 181-189. doi:10.1080/01926180600550437

- Burton, A., Conway, J. H., & Holgate, S. T. (2000). Reliability: What is it, and how is it measured? *Physiotherapy*, 86(2), 94-99. doi:10.1016/S0031-9406(05)61211-4
- Cabrera-Nguyen, P. (2010). Author guidelines for reporting scale development and validation results in the journal of the society for social work and research. *Journal of the Society for Social Work and Research*, 1(2), 99–103. doi:10.5243/jsswr.2010.8
- Cassidy, J., & Marvin, R. S. (1992). *Attachment organization in preschool children: Procedures and coding manual* (Unpublished manual). University of Virginia, Charlottesville, VA.
- Churchill, G. A., & Iacobucci, D. (2002). *Marketing research methodological foundations* (8th ed.). Fort Worth, TX: Harcourt College Publishers.
- Clark, L., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319. doi:10.1037/1040-3590.7.3.309
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey, NY: Lawrence Erlbaum.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78, 98-104. doi:10.1037/0021-9010.78.1.98
- De Bruin, G. P. (2004). Problems with the factor analysis of items: Solutions based on item response theory and item parcelling. *SA Journal of Industrial Psychology*, 30(4), 16–26. doi:10.4102/sajip.v30i4.172
- Easterbrooks, M. A., Bureau, J.-F., Lyons-Ruth, K. (2012). Developmental correlates

and predictors of emotional availability in mother–child interaction: A longitudinal study from infancy to middle childhood. *Development and Psychopathology*, 24, 65–78. doi:10.1017/S0954579411000666

Finger, B. (2006). *Exploring the intergenerational transmission of attachment disorganization* (Unpublished doctoral dissertation). University of Chicago, Chicago, IL.

Finger, B., Hans, S. L., Bernstein, V. J., & Cox, S. M. (2009). Parent relationship quality and infant-mother attachment. *Attachment & Human Development*, 11(3), 285–306. doi:10.1080/14616730902814960

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7(3), 286–299. doi:10.1037/1040-3590.7.3.286

Goglia, L. R., Jurkovic, G. J., Burt, A. M., & Burge-Callaway, K. G. (1992). Generational boundary distortions by adult children of alcoholics: Child-as-parent and child-as-mate. *The American Journal of Family Therapy*, 20, 291–299. doi:10.1080/01926189208250899

Hall, R. J., Snell, A. F., & Foust, M. S. (1999). Item parceling strategies in SEM: Investigating the subtle effects of unmodeled secondary constructs. *Organizational Research Methods*, 2(3), 233–256. doi:10.1177/109442819923002

Haynes, S., Richard, D., & Kubany, E. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, 7, 238–247. doi:10.1037/1040-3590.7.3.238

Haynes, S., Smith, G., & Hunsley, J. (2011). *Scientific foundations of clinical assessment*.

New York, NY: Taylor & Francis.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *The Behavioral and Brain Sciences*, 33, 61–83. doi:10.1017/S0140525X0999152X

Hesse, E., & Main, M., (2006). Frightened, threatening, and dissociative parental behavior in low-risk samples: Description, discussion, and interpretations. *Development and Psychopathology*, 18, 309–343. doi:10.10170S0954579406060172

Hetherington, E. M. (1999). Should we stay together for the sake of the children? In E. M. Hetherington (Ed.), *Coping with divorce, single-parenting, and remarriage: A risk and resilience perspective* (pp. 93–116). New York, NY: Erlbaum.

Hinkin, T. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967–988. doi:10.1016/0149-2063(95)90050-0

Hooper, L. M. (2009). *Parentification Inventory*. Department of Department of Educational and Counseling Psychology, Counseling, and College Personnel, University of Louisville, Louisville, KY.

Hooper, L. M., Doehler, K. (2012). Assessing family caregiving: a comparison of three retrospective parentification measures. *Journal of Marital Family Therapy*, 38(4), 653-666. doi:10.1111/j.1752-0606.2011.00258.x

Hooper, L. M., Doehler, K., Wallace, S. A., & Hannah, N. J. (2011). The Parentification Inventory: Development, validation, and cross-validation. *The American Journal of Family Therapy*, 39(3), 226-241. doi:10.1080/01926187.2010.531652

Hu, L. T. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55. doi:10.1080/10705519909540118

- Jackson, D. L., Gillaspy, J. A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. *Psychological Methods*, 14(1), 6–23. doi:10.1037/a0014694
- Jurkovic, G. J., & Thirkield, A. (1998). *Parentification questionnaire*. Department of Psychology, Georgia State University, Atlanta, GA.
- Jurkovic G. J., Thirkield A., & Morrell R. (2001). Parentification of Adult Children of Divorce: A Multidimensional Analysis. *Journal of Youth and Adolescence*, 30(2), 245–257. doi:10.1023/A:1010349925974
- Kelley, M. L., French, A., Bountress, K., Keefe, H. A., Schroeder, V., Steer, K., ... Gumienny, L. (2007). Parentification and family responsibility in the family of origin of adult children of alcoholics. *Addictive Behaviors*, 32, 675–685. doi:10.1016/j.addbeh.2006.06.010
- Kerig, P. K. (2005). Revisiting the construct of boundary dissolution: A multidimensional perspective. In P. K. Kerig (Ed.), *Implications of parent-child boundary dissolution for developmental psychopathology: "Who is the parent and who is the child?"* (pp. 5-42). Binghamton, NY: Haworth Maltreatment & Trauma Press.
- Kerig, P. A., Swanson, J. A., & Ward, R. M. (2012). Autonomy with connection influences of parental psychological control on mutuality in emerging adults' close relationships. In P. A. Kerig, M. C. Schulz & S. T. Hauser (Eds.). *Adolescence and beyond: Family processes and development* (pp. 134-153). New York, NY: Oxford University Press.
- King, C.V. (2005). Factor analysis and negatively worded items. *Populus*. Retrieved from www.populus.com/techpapers/download/fa&_neg_worded.pdf

- Kishton, J.M. & Widaman, K.F. (1994). Unidimensional versus domain representative parceling of questionnaire items: An empirical example. *Educational and Psychological Measurement*, 54, 757-765. doi:10.1177/0013164494054003022
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling (2nd ed.)*. New York: The Guilford Press.
- Lee, I. A., & Preacher, K. J. (2013). *Calculation for the test of the difference between two dependent correlations with one variable in common* [Computer software]. Retrieved from <http://quantpsy.org>.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9(2), 151–173. doi:10.1207/S15328007SEM0902_1
- Lyons-Ruth, K., Hennighausen, K., & Holmes, B. (2005). *Goal-corrected partnership in adolescence coding system (GPACS): Coding manual, Version 2* (Unpublished document). Department of Psychiatry, Harvard Medical School, Cambridge, MA.
- Martins, C., & Gaffan, E. A. (2000). Effects of early maternal depression on patterns of infant-mother attachment: A meta-analytic investigation. *Journal of Child Psychology and Psychiatry*, 41(6), 737–746. doi:10.1111/1469-7610.00661
- McGraw, K. O., & Wong, S. P. (1996). Forming inferences about some intraclass correlations coefficients. *Psychological Methods*, 1(1), 30-46. doi:10.1037/1082-989X.1.1.30
- Meier, M., & Bureau, J.-F. (2011). *Childhood Disorganization and Role Reversal Scale: Initial Version* (Unpublished document). School of Psychology, University of Ottawa, Ottawa, Canada.

- Meier, M., & Bureau, J.-F. (2012). *Childhood Disorganization and Role Reversal Scale: Revised version* (Unpublished document). School of Psychology, University of Ottawa, Ottawa, Canada.
- Meier, M., Martin, J., Bureau, J.-F., Speedy, M., Levesque, C., & Lafontaine, M.-F. (2014). Psychometric properties of the Mother and Father Compulsive Caregiving Scales: A brief measure of current young adult caregiving behaviors toward parents. *Attachment & Human Development, 16*(2), 174–191.
doi:10.1080/14616734.2013.870809
- Melnick, P. M., Finger, S., Hans, B., Patrick, S., & Lyons-Ruth, K. (2008). Hostile-helpless states of mind in the AAI: A proposed additional AAI Category with implications for identifying disorganized infant attachment in high-risk samples. In H. Steele & M. Steele (Eds.), *Clinical applications of the Adult Attachment Interview* (pp. 399-424). New York, NY: Guilford Press.
- Mika, P., Bergner, R. M., & Baum, M. C. (1987). The development of a scale for the assessment of parentification. *Family Therapy, 14*(3), 229–235.
- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Netemeyer, R. G., Bearden, W.O. & Sharma, S. (2003). *Scaling procedures: issues and applications*. Thousand Oaks: Sage Publications.
- Nunnally, J. C. (1967). *Psychometric Theory*. New York: McGraw Hill.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw Hill, Inc.
- O'Connor, E., Bureau, J.-F., McCartney, K., & Lyons-Ruth, K. (2011). Risk and outcomes

associated with disorganized/controlling patterns of attachment at age three years in the National Institute of Child Health & Human Development Study of Early Child Care and Youth Development. *Infant Mental Health Journal*, 32, 450-472.

doi:10.1002/imhj.20305

Peris, T. S., Goeke-Morey, M. C., Cummings, E. M., & Emery, R. E. (2008). Marital conflict and support seeking by parents in adolescence: Empirical support for the parentification construct. *Journal of Family Psychology*, 22(3), 633-642.

doi:10.1037/a0012792

Portney, L. G., & Watkins, M. P. (2009). *Foundations of clinical research: Applications to practice* (3rd ed). Saddle River, NJ: Prentice Hall.

Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for scale selection and evaluation. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 1-15). San Diego, CA: Academic Press.

Sattler, J. M. (1992). *Assessment of children* (3rd ed.). San Diego, CA: Sattler.

Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Shrout, P. E. (1998). Measurement reliability and agreement in psychiatry. *Statistical Methods in Medical Research*, 7, 301-317. doi:10.1191/096228098672090967

Solomon, J., George, C., & De Jong, A. (1995). Children classified as controlling at age six: Evidence of disorganized representational strategies and aggression at home and school. *Development and Psychopathology*, 7, 447-464. doi:10.1037/e334362004-

015

- Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87, 245-251. doi:10.1037/0033-2909.87.2.245
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.)*. New York, NY: Pearson Education Inc.
- Taris, T., Bok, I. A., & Meijer, Z. Y. (1998). Assessing stability and chance of psychometric properties of multi-item concepts across different situations: A general approach. *The Journal of Psychology*, 132, 301-316. doi:10.1080/00223989809599169
- van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, 117, 387–403. doi:10.1037/0033-2909.117.3.387
- van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11, 225-249. doi:10.1017/S0954579499002035
- Weir, J. P. (2005). Quantifying test-retest reliability using the intraclass correlation coefficient and the SEM. *Journal of Strength and Conditioning Research*, 19(1), 231–240. doi:10.1519/15184.1
- Winton, C. A. (2002). *Children as caregivers: Parental and parentified children*. Boston, MA: Allyn and Bacon.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, 34, 806–838. doi:10.1177/0011000006288127

Yen, M., & Lo, L. H. (2002). Examining test-retest reliability: An intra-class correlation approach. *Nursing Research*, 51, 59-62. doi:10.1097/00006199-200201000-00009

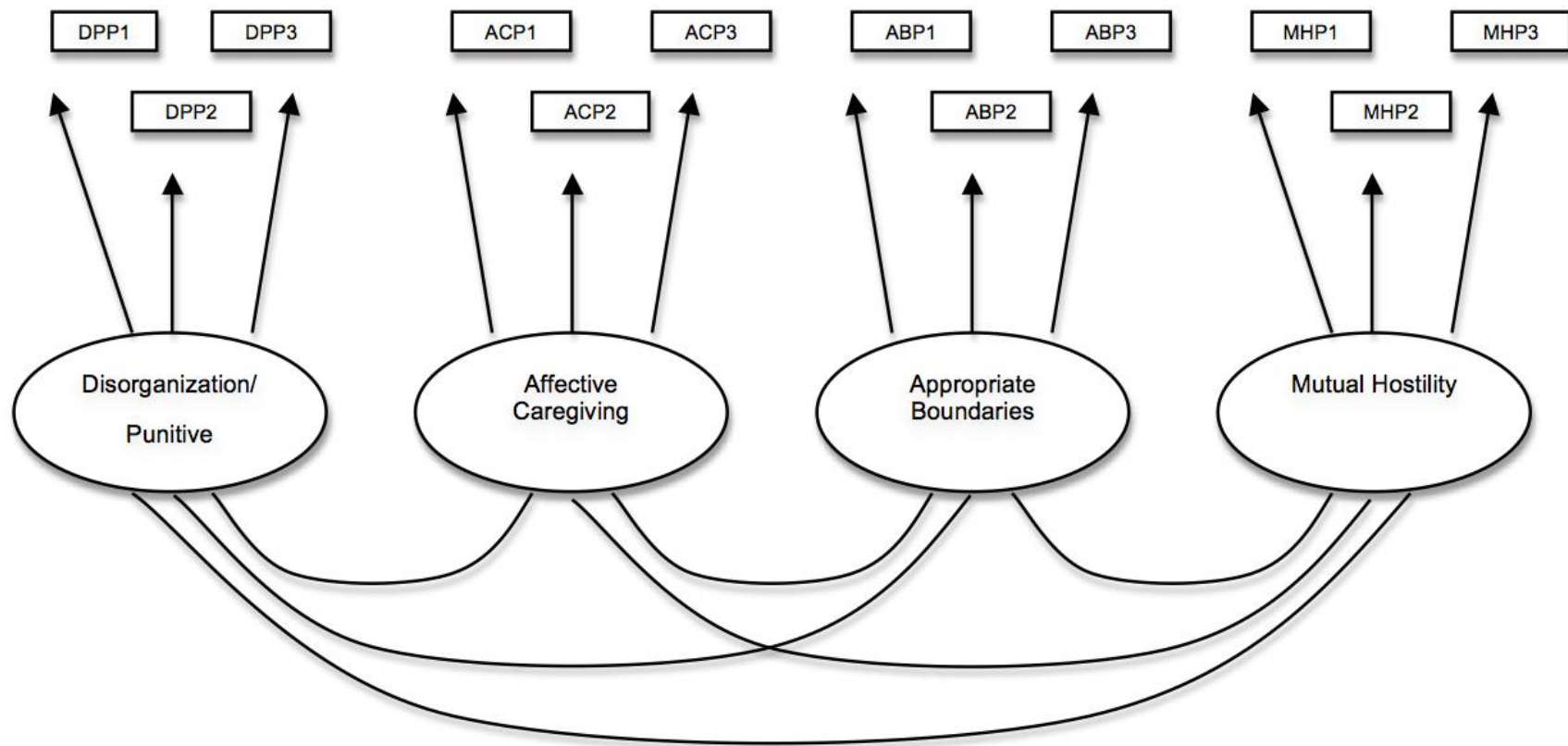


Figure 3.1. Hypothesized model of the CDRR mother version based on the results of the initial principal components analysis (PCA).

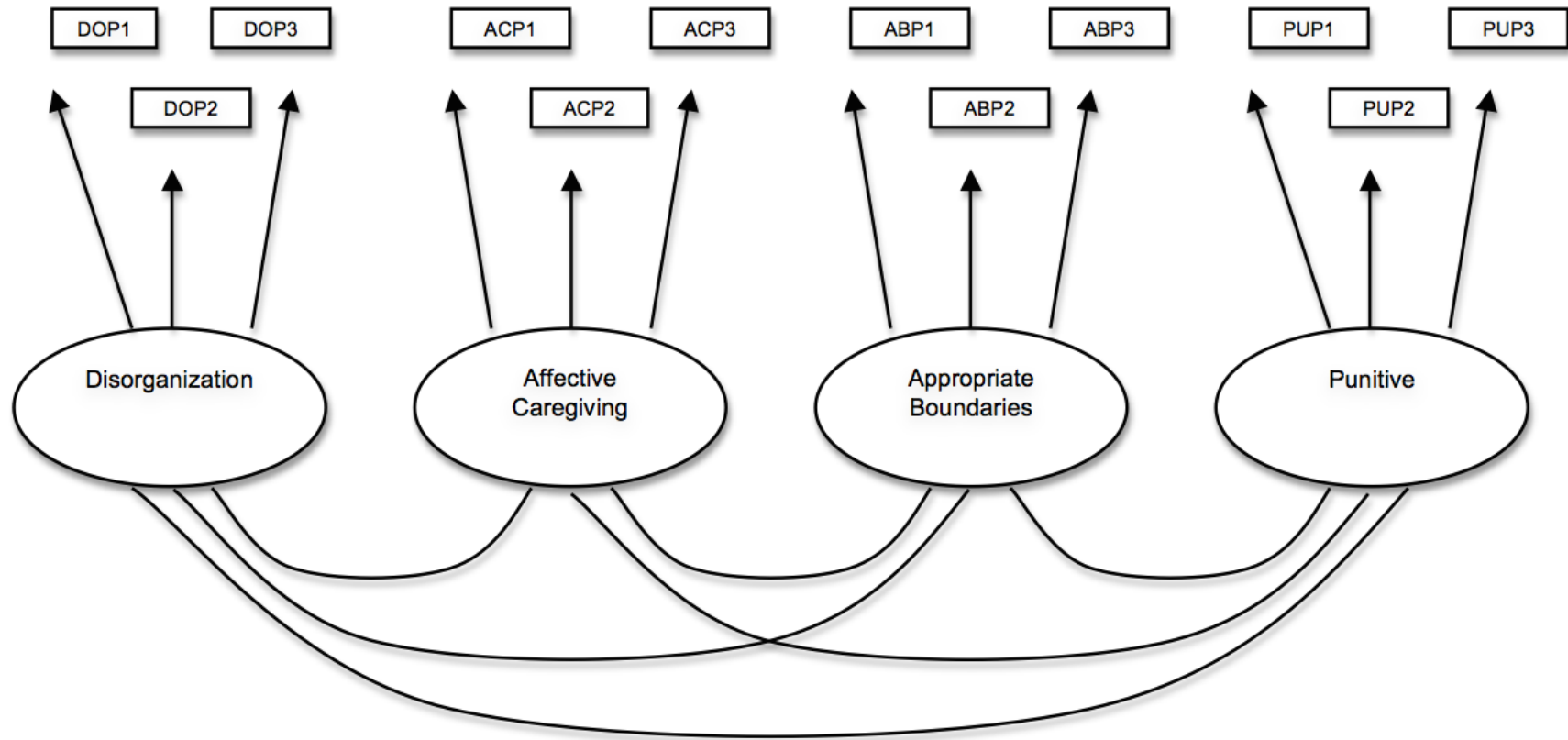


Figure 3.2. Hypothesized model of the CDRR father version based on the results of the initial principal components analysis (PCA).

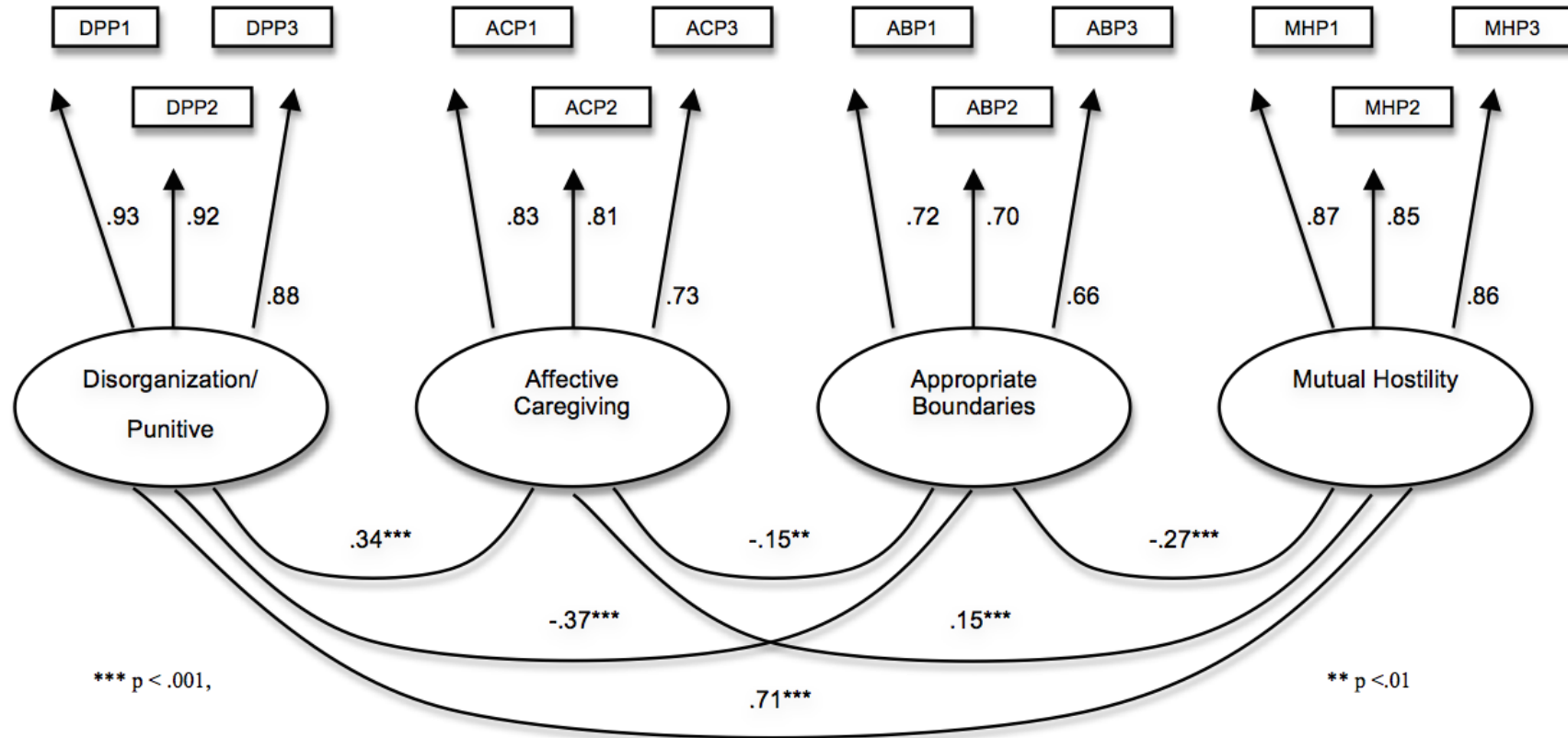


Figure 3.3. Parameter estimates of the CDRR mother version using confirmatory factor analysis (CFA) ($N = 565$).

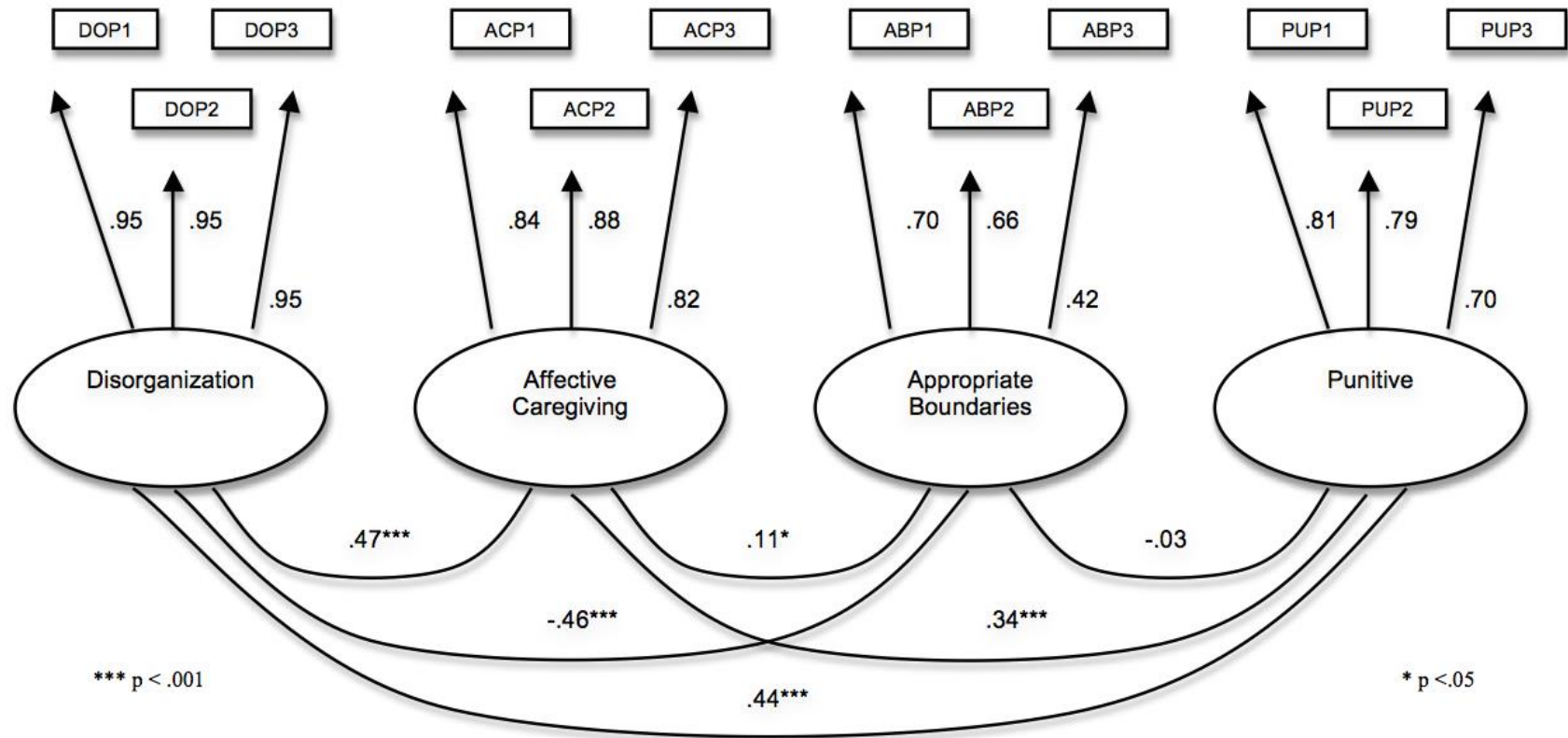


Figure 3.4. Parameter estimates of the CDRR father version using confirmatory factor analysis (CFA) ($N = 643$).

Table 3.1

*Cronbach's Alphas (α) and Average Inter-Item Correlations of the CDRR Mother Version
($N = 726$)*

CDRR Mother Scales	α	Avg. Inter-item Correlation
Disorganization/Punitive	.95	.41
Affective Caregiving	.79	.28
Mutual Hostility	.90	.44
Appropriate Boundaries	.78	.23

Table 3.2

Cronbach's Alphas (α) and Average Inter-Item Correlations of the CDRR Father Version (N = 722)

CDRR Father Scales	α	Avg. Inter-item Correlation
Disorganization	.96	.43
Affective Caregiving	.91	.35
Punitive	.80	.34
Appropriate Boundaries	.75	.30

Table 3.3

Temporal Stability Analyses: Correlation Coefficients and Intraclass Correlation Coefficients of the CDRR Mother Version (N = 96)

CDRR Mother Scales	<i>r</i>	ICC (95% CI)
Disorganization/Punitive	.89***	.89 (.84-.95)
Mutual Hostility	.84***	.83 (.75-.88)
Affective Caregiving	.74***	.69 (.45-.77)
Appropriate Boundaries	.68***	.68 (.55-.77)

Note: ICC = Absolute agreement intraclass correlation coefficient for single measures using the two-way mixed ANOVA model (ICC 3,1).

*** $p < 0.001$.

Table 3.4

Temporal Stability Analyses: Correlation Coefficients and Intraclass Correlation Coefficients of the CDRR Father Version (N = 96)

CDRR Father Scales	<i>r</i>	ICC (95% CI)
Disorganization	.87***	.87 (.80-.91)
Punitive	.66***	.65 (.52-.75)
Affective Caregiving	.69***	.66 (.50-.76)
Appropriate Boundaries	.69***	.69 (.57-.78)

Note: ICC = Absolute agreement intraclass correlation coefficient for single measures using the two-way mixed ANOVA model (ICC 3,1).

*** $p < 0.001$.

Table 3.5

Means, Standard Deviations, and Correlations among Selected Scales of the CDRR Mother Version and Parentification Measures
(*N* = 645)

CDRR Mother Scales	Parentification Measures			
	PI-PFP	PI-SFP	RPSM	RPSF
Affective Caregiving (<i>M</i> = 27.73, <i>SD</i> = 6.91)	.55***	.35***	.46***	.41***
Appropriate Boundaries (<i>M</i> = 39.07, <i>SD</i> = 7.36)	-.20***	-.10**	-.36***	-.32***
<i>M</i>	1.96	2.33	39.13	35.69
<i>SD</i>	.55	.54	14.48	12.71

Note: PI-PFP = Parentification Inventory – Parent-Focused Parentification; PI-SFP = Sibling-focused parentification; RPSM = Relationship with Parents Mother Scale; RPSF = Relationship with Parents Father Scale. The expected correlations are in bold.

** $p < 0.01$, *** $p < .001$.

Table 3.6

Means, Standard Deviations, and Correlations among Selected Scales of the CDRR Father Version and Parentification Measures
(*N* = 632)

CDRR Father Scales	Parentification Measures			
	PI-PFP	PI-SFP	RPSM	RPSF
Affective Caregiving (<i>M</i> = 33.33, <i>SD</i> = 10.59)	.61***	.37***	.58***	.68***
Appropriate Boundaries (<i>M</i> = 25.51, <i>SD</i> = 4.27)	-.05	.04	-.18***	-.11**
<i>M</i>	1.97	2.33	38.97	35.70
<i>SD</i>	.55	.54	14.43	12.82

Note: PI-PFP = Parentification Inventory – Parent-Focused Parentification; PI-SFP = Sibling-focused parentification; RPSM = Relationship with Parents Mother Scale; RPSF = Relationship Parents Father Scale. The expected correlations are in bold.

** $p < 0.01$, *** $p < .001$.

Table 3.7

Variations on the Disorganized and Controlling Scales of the CDRR Mother Version as a Function of the Absence of Childhood Risk (N = 719)

CDRR Scales	Yes M (SD)	No M (SD)	Overall F^a (η^2_p)
Divorce (Multivariate Omnibus ^b : 1.42; $\eta^2_p = 0.006$)			
Disorganization/Punitive	46.60 (17.28)	39.84 (13.70)	.03 (.001)
Affective Caregiving	27.85 (6.98)	26.63 (6.96)	.02 (.001)
Mutual Hostility	25.66 (9.18)	23.50 (8.44)	2.28 (.003)
Financial Problems (Multivariate Omnibus: 7.11***; $\eta^2_p = .03$)			
Disorganization/Punitive	47.54 (16.95)	38.97 (13.10)	19.63*** (.03)
Affective Caregiving	28.50 (6.78)	26.50 (8.56)	5.81* (.008)
Mutual Hostility	26.34 (6.94)	23.06 (8.40)	6.17* (.009)
Mental Health (Multivariate Omnibus: 7.99***; $\eta^2_p = .03$)			
Disorganization/Punitive	50.46 (18.73)	39.66 (13.43)	20.90*** (.03)
Affective Caregiving	29.11 (7.31)	26.53 (6.89)	6.26* (.009)
Mutual Hostility	28.52 (9.83)	23.19 (8.22)	13.54*** (.02)
Substance Abuse (Multivariate Omnibus: 9.16***; $\eta^2_p = .04$)			
Disorganization/Punitive	56.57 (19.32)	28.41 (16.84)	26.40*** (.04)
Affective Caregiving	39.79 (13.47)	26.70 (6.97)	.10 (.001)
Mutual Hostility	30.46 (9.78)	23.37 (8.31)	10.27*** (.01)
Domestic Conflict/Violence (Multivariate Omnibus: 22.30***; $\eta^2_p = .09$)			
Disorganization/Punitive	47.30 (16.70)	37.86 (12.25)	45.99*** (.06)
Affective Caregiving	28.29 (7.36)	26.15 (6.65)	8.49** (.01)
Mutual Hostility	27.70 (8.54)	22.04 (7.99)	58.46*** (.08)

Note: η^2_p = partial eta-squared. Yes = Endorsement of the presence of a negative life event in childhood (childhood risk variables). No = Endorsement of the absence of a negative life event in childhood.

^aUnivariate F test derived from MANOVA. ^bAll multivariate omnibus tests used Wilks' Lambda statistic.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3.8

Variations on the Disorganized and Controlling Scales of the CDRR Father Version as a Function of the Absence of Childhood Risk (N = 715)

CDRR Scales	Yes M (SD)	No M (SD)	Overall F^a (η^2_p)
Divorce (Multivariate Omnibus ^b : 5.67***; $\eta^2_p = .02$)			
Disorganization	81.13 (28.77)	65.73 (23.36)	1.66 (.002)
Affective Caregiving	30.21 (11.25)	30.29 (9.90)	5.92* (.008)
Punitive	16.95 (5.76)	16.59 (5.51)	2.86 (.004)
Financial Problems (Multivariate Omnibus: 12.08***; $\eta^2_p = .05$)			
Disorganization	81.58 (29.23)	64.30 (22.06)	23.10*** (.03)
Affective Caregiving	32.79 (11.43)	29.54 (9.55)	5.80* (.008)
Punitive	16.72 (5.67)	16.59 (5.49)	1.60 (.002)
Mental Health (Multivariate Omnibus: 4.01**; $\eta^2_p = .02$)			
Disorganization	82.21 (30.12)	66.23 (23.58)	11.20*** (.02)
Affective Caregiving	32.91 (11.08)	29.94 (9.95)	4.40* (.006)
Punitive	18.27 (6.14)	16.44 (5.45)	4.52* (.006)
Substance Abuse (Multivariate Omnibus: 6.00***; $\eta^2_p = .03$)			
Disorganization	93.61 (29.59)	66.30 (23.52)	17.82*** (.03)
Affective Caregiving	34.64 (14.05)	29.98 (9.72)	2.84 (.004)
Punitive	18.76 (5.96)	16.50 (5.49)	3.73 (.005)
Domestic Conflict/Violence (Multivariate Omnibus: 28.45***; $\eta^2_p = .11$)			
Disorganization	82.10 (26.86)	61.49 (20.84)	80.02*** (.10)
Affective Caregiving	32.37 (10.84)	29.31 (9.61)	12.37*** (.02)
Punitive	18.32 (5.95)	15.86 (5.16)	30.36*** (.04)

Note: η^2_p = partial eta-squared. Yes = Endorsement of the presence of a negative life event in childhood (childhood risk variables). No = Endorsement of the absence of a negative life event in childhood.

^aUnivariate F test derived from MANOVA. ^bAll multivariate omnibus tests used Wilks' Lambda statistic.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3.9

Variations on the Appropriate Boundaries Mother CDRR Scale as a Function of the Absence of Childhood Risk (N = 719)

Predictor Variables	Yes M (SD)	No M (SD)	Overall F^a (η^2_p)
Divorce	39.18 (8.95)	39.21 (8.69)	.60 (.001)
Financial Problems	37.28 (8.10)	39.72 (8.83)	7.77** (.01)
Mental Health	39.27 (18.80)	39.21 (8.74)	.27 (.001)
Substance Abuse	35.41 (6.82)	39.46 (8.78)	7.85** (.01)
Domestic Conflict/ Violence	38.99 (8.12)	39.37 (8.96)	.02 (.001)

Note: η^2_p = partial eta-squared. Yes = Endorsement of the presence of a negative life event in childhood (childhood risk variables). No = Endorsement of the absence of a negative life event in childhood.

^aUnivariate F test derived from ANOVA.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3.10

Variations on the Appropriate Boundaries Father CDRR Scale as a Function of the Absence of Childhood Risk (N = 715)

Predictor Variables	Yes M (SD)	No M (SD)	Overall F^a (η^2_p)
Divorce	23.34 (5.26)	25.26 (5.20)	6.24* (.009)
Financial Problems	23.70 (5.10)	25.31 (5.25)	6.27* (.009)
Mental Health	25.10 (4.65)	24.95 (5.34)	1.69 (.002)
Substance Abuse	22.32 (3.95)	25.15 (5.28)	6.68** (.009)
Domestic Conflict/ Violence	24.39 (5.08)	25.28 (5.28)	.25 (.001)

Note: η^2_p = partial eta-squared. Yes = Endorsement of the presence of a negative life event in childhood (childhood risk variables). No = Endorsement of the absence of a negative life event in childhood.

^aUnivariate F test derived from ANOVA.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

CHAPTER 4 (STUDY 2):

Investigating the Correlates of the CDRR to Identity Development and Psychological
Outcomes

Investigating the Correlates of the CDRR to Identity Development and Psychological Outcomes

The *Childhood Disorganization and Role Reversal Scale* (CDRR: Meier & Bureau, 2012) is a measure assessing for young adults' current perceptions of childhood disorganized and controlling attachment. Study 1 (reported in Chapter 3) provided support for the CDRR's reliability, and its factor structure has been shown to be robust using another sample. Given the lack of self-report questionnaires assessing for disorganized and controlling attachment representations in young adults, the assessment of convergent and discriminant validity was limited to two of the four CDRR scales, namely, Affective Caregiving and Appropriate Boundaries. Initial support was found for the validity of these scales; however, it is valuable to assess the CDRR's relationship to expected psychological outcomes to further provide support for the validity of these scales and its clinical utility.

This current study assessed the relationship between the CDRR scales and selected psychological outcomes relevant to the mental health of young adults, namely, separation-individuation, unresolved feelings towards parents and psychological well-being. Identity development is a key developmental task of adolescence and young adulthood (Erikson, 1968). The separation-individuation process involves two stages, the differentiation of self and the development of a distinct identity (Mahler, Pine & Bergman, 1975). Both secure attachment and successful resolution of the separation-individuation process involves the ability to manage the often contradictory needs of autonomy and connectedness, such as being able to depend on others, while not getting lost in the other person or becoming emotionally dysregulated (Blom & Bergman, 2013). The development of the self involves the integration of experiences (Breger, 1974; Loevinger, 1976). This process is supported by

a parent's ability to attune to their child's affective states, especially conflicted and negative emotions, and to help the child articulate their emotions and self-regulate (Carlson, Egeland & Sroufe, 2009; Steele, Bate, Nikitiades & Buhl-Nielsen, 2015). When aspects of a child's emotional life are denied or dismissed, the child's representations of self and of others are thought to become fragmented and unintegrated (Carlson et al., 2009). Parents of children with disorganized and controlling attachment have been noted to experience unresolved attachment or mental health problems (Finger, 2006; Martins & Gaffan, 2000; Melnick, Finger, Hans, Patrick & Lyons-Ruth, 2008; see meta-analyses by van IJzendoorn, 1995; van IJzendoorn, Schuengel & Bakermans-Kranenburg, 1999). This may consequently result in a parent being preoccupied with their own emotional problems, requesting that their child focus on their emotional state and not being able to see their child as a distinct person (Bowlby, 1973, 1980; George & Solomon, 2008). Moreover, Scharf and Mayseless (2007) theorized that another important developmental task in adolescence and young adulthood is the reduction of emotional investment towards parents and instead focusing such internal resources to the outside world, such as with peers and romantic partners. As such, it is expected that the unsuccessful struggle to negotiate autonomy with parents can lead to negative feelings towards their relationship with their parents, such as anger, frustration and fear of losing their parent's love. Currently, it remains to be investigated if higher scores on the CDRR disorganization and controlling scales are related to problems in the separation-individuation process related to identity development, unresolved feelings towards parents and more generally to current psychological problems, and vice versa for the Appropriate Boundaries scales.

With respect to the link between psychological problems and disorganized and controlling attachment, Bowlby (1969/1982) noted that “the reversal of roles between child, or adolescent, and parent, unless very temporary, is almost not only a sign of pathology in the parent, but a cause of it in the child” (p. 377). Such a reversal of roles is theorized to emerge when the parent, rather than the child, is overdependent within the dyad (Bowlby, 1973). Bowlby’s notion of role reversal is akin to the concept of controlling/caregiving attachment. During the preschool years, it has been found that the majority of infants identified with disorganized attachment develop controlling/caregiving or controlling/punitive attachment (Main & Cassidy, 1988; Wartner, Grossmann, Fremmer-Bombik & Seuss, 1994). Disorganized attachment, and to a lesser extent, controlling attachment, are key predictors to concurrent and subsequent psychopathology (Lyons-Ruth & Jacobwitz, 2008; Moss, Bureau, Cyr, Mongeau, & St-Laurent, 2004; Moss, Cyr & Dubois-Comtois 2004; O’Connor, Bureau, McCartney & Lyons-Ruth, 2011). The first section of the literature review focuses on the association between disorganized and controlling attachment to problems in identity development and unresolved feelings towards their parents. The second section focuses on the association between disorganized and controlling attachment to psychological outcomes. Given the limited number of studies on disorganized and controlling attachment in young adults, the majority of the literature review focuses on childhood studies.

Disorganized and Controlling Attachment and Identity Problems

Disorganized and controlling attachment, and the separation-individuation process. Borderline personality disorder (BPD) has been conceptualized as a disorder of identity development, as well as self-regulation and attachment problems (Macfie, 2009).

Infant disorganized attachment is seen as a key predictor to BPD and it has been consistently linked to BPD in adulthood. For instance, a longitudinal study found that infant disorganization (12 to 18 months) was modestly related to BPD in adulthood (Carlson et al., 2009). Other negative early caregiving experiences, such as boundary dissolution (akin to controlling attachment) and maternal hostility were also moderately related to BPD. Along these lines, Lyons-Ruth, Bureau, Holmes, Easterbrook & Brooks (2013) found that 44% of 8-year old children that showed both disorganized and controlling attachment exhibited BDP traits in adolescence, the proportion lowered to 15% for those with high scores on one disorganized or controlling attachment measures and 0% with no high scores on either measure. Similarly, Lyons-Ruth, Brumariu, Bureau, Hennighausen, and Holmes (2014) found that higher levels of disoriented and caregiving/role confused interactional behaviours between young adults and their mothers were associated with more BPD symptoms in young adults. Lastly, in a study specific to controlling/caregiving attachment in young adults, self-reported accounts of feeling burdened in providing emotional care to parents were related to increased endorsement of borderline personality traits (Meier, Martin, Bureau, Speedy, Levesque & Lafontaine, 2014).

The parentification literature has theorized that parentification or parent-child boundary dissolution may lead to problems in identity formation as it involves a child being enmeshed in the personal life of their parents, and possibly interfering with the separation-individuation process, or leading the child to feel guilt when he/she tries to develop an autonomous and distinct self from their parents (Macfie, Brumariu & Lyons-Ruth, 2015; Wells & Jones, 1998). Recent studies have found a modest link between retrospective accounts of parentification and problems in the differentiation of self, specifically, emotional

fusion with others, ability to balance togetherness and separateness and affect regulation (Jankowski & Hooper, 2012; Jankowski, Hooper, Sandage & Hannah, 2013). In a longitudinal study with older adolescents, parentified and enmeshed relationships to parents were related to reassurance seeking and functional and emotional dependence, concurrently, and at 6 to 9 months later (Mayseless & Sharf, 2009). In line with the findings from the attachment and parentification literature, it is predicted that problems in identity formation would be associated to disorganized and controlling attachment.

Disorganized and controlling attachment, and unresolved feelings: Fear, anger, and failed protection. As mentioned above, a key developmental task during late adolescence and young adulthood is the formation of a separate and distinct identity. It is assumed that interruptions to this process may be linked to experiencing negative reactions towards parents, or using attachment or psychodynamic language, “unresolved issues”. The Adolescent Unresolved Attachment Questionnaire (AUAQ: West, Rose, Spreng & Adam, 2000) assesses adolescents’ current unresolved feelings towards their parents, namely, experiencing fear of parental abandonment, expressing anger towards their parents and perceiving a lack of emotional protection by their parents. West and his colleagues (2000) wanted to capture the affective responses related to disorganized attachment. The three scales, Fear, Anger/ Dysregulation and Failed Protection/Aloneness, are based within attachment theory. For instance, the Fear and Anger/Dysregulation scales were based on Bowlby’s (1973) clinical observations that children experience fear when their parents are emotionally or physically not available, and anger when their parents fail to respond to their attachment needs. The Failed Protection/Aloneness scale was based on Solomon and George’s (1999) thought that children feel alone and unprotected by parents triggered by

their child's attachment need due to their own emotional problems leading them to be less responsive to their child. The AUAQ has been linked to psychological outcomes. For instance, in a sample of adolescents, higher scores on all three AUAQ scales were found in a clinical group exhibiting suicidal behaviours in comparison to a normative group (West et al., 2000). Another study, using a Canadian sample of young adults, found that the non-suicidal self-injury (NSSI) group had a higher score on all three AUAQ scales in contrast to the non-NSSI group (Bureau, Martin, Freynet, Poirier, Lafontaine & Cloutier, 2010).

Only one known study examined the relationship between the AUAQ to other measures of disorganized and/or controlling attachment in young adolescents. Meier and colleagues (2014) developed a measure of compulsive caregiving that was modified from the Caregiving Questionnaire (CQ: Kunc & Shaver, 1994). They found that young adults' current feelings of being *burdened* by caregiving to both their mothers and fathers were linked with feeling more anger, and fear and being less emotionally protected in their current relationship with their parents. However, it was found that young adults' perceptions of *independence* from the needs of their parents were not related to any of the AUAQ scales for fathers, but it was related to increased anger and feeling less emotionally protected by their mothers. From these limited studies, it is expected that current perceptions of childhood disorganized attachment, and to a lesser extent, controlling attachment would be related to negative feelings towards parents, such as feeling emotionally unprotected/alone, angry and fearing parental abandonment. We now turn to the second section focusing on the correlates between psychological well-being and disorganized and controlling attachment.

Disorganized and Controlling Attachment and Psychological Problems

Disorganized and controlling attachment in childhood, and current and later psychological problems. Given the limited body of research on disorganized and controlling attachment and its concurrent and subsequent effects in adulthood, the literature on disorganized and controlling attachment and concurrent mental health problems in childhood will first be explored. Numerous studies have found associations between disorganized and controlling attachment to internalizing and externalizing problems in comparison to secure children (Bureau, Easterbrooks & Lyons-Ruth, 2009a; Moss, Bureau et al., 2004; Moss, Cyr & Dubois-Comtois 2004; Moss, Smolla, Cyr, Dubois-Comtois, Mazzarello, & Berthiaume, 2006; O'Connor et al., 2011; Solomon, George & De Jong, 1995). Of these studies, O'Connor and colleagues used a large sample ($n = 1,140$) from the NICHD-SECCYD database and found that the behaviourally disorganized children had the poorest scores on 18 attachment-related variables focusing on maternal well-being, mother-child interactions and child social adjustment. Controlling/punitive children had the second poorest outcomes, while the controlling/caregiving children did not rank the lowest on any of the outcome variables. With regards to social adjustment, children identified with controlling/punitive attachment displayed the most disruptive behaviours in contrast to behaviourally disorganized and controlling/caregiving children (no difference to secure children). In another study, Bureau and colleagues (2009a) found that disorganized attachment, presented alone or in a combination with controlling/punitive attachment at age 8, was associated to concurrent mother-reported externalizing and internalizing problems. However, controlling/caregiving attachment was not related to either externalizing or internalizing problems. Moreover, controlling/punitive attachment alone was unexpectedly unrelated to

externalizing or internalizing problems, suggesting that controlling/punitive attachment may be conceived as more than aggressive behaviours.

In summary, the literature on childhood attachment has found more consistent associations between externalizing and/or internalizing problems in disorganized and controlling/punitive children, while it has been inconsistent in finding an association between caregiving behaviours in childhood and problems in social adaptation. It has been speculated that the inconsistency might be due the under-reporting of caregiving behaviours as may be perceived as kind gestures or misinterpreted as a sign of shyness (Easterbrooks, Bureau & Lyons-Ruth, 2012; O'Connor et al., 2011). Thus, given the possible underestimation of the negative impact of caregiving behaviours, the link between caregiving attachment and negative outcomes may be more clearly identified in self-report measures, particularly in later years when children can report on their own functioning.

There are a few longitudinal studies that found a link between infant disorganization and psychological problems in adolescence and adulthood. For instance, Carlson (1998) found a small to moderate link between infant disorganized attachment to various psychological problems in the later years. For example, infant disorganization was related to internalizing problems and dissociation in adolescence. Besides infant disorganization having a direct effect on adult psychopathology, it also mediated the relationship between early parent-child parenting behaviours and adult psychopathology. Although these studies did not assess the impact of adult disorganized attachment on mental health, the results note that this attachment pattern in infancy has a strong effect on young adults' psychological well-being. Thus, it could be expected that current attachment problems would have an even greater impact on an individuals' mental health.

Disorganized and controlling attachment in young adults, and current psychological problems. There is very limited research on disorganized and controlling attachment in young adults and its impact on concurrent psychological problems. Within this small literature base, three studies using the same sample employed the Goal-Corrected Partnership in Adolescent Coding System (GPACS; Lyons-Ruth, Henninghausen, & Holmes, 2005) to assess the association between controlling and disoriented interactional stances to current psychological outcomes. It was found that the disoriented, caregiving and punitive interactional stances between adolescents and mothers were related to negative psychological outcomes, such as depressive symptoms, dissociation, suicidality/self-injury, and anxiety (Brumariu, Obsuth & Lyons-Ruth, 2013; Lyons-Ruth et al., 2014; Obsuth, Hennighausen, Brumariu & Lyons-Ruth, 2014). In another study specific to compulsive caregiving, self-reported accounts of feeling burdened in providing emotional care to parents was related to increased endorsement of depressive symptoms in young adults (Meier et al., 2014). Lastly, in a study on boundary dissolution, role equalization interactions (e.g., peer-like or friend-like relationship to parent) observed between parents and young adolescents predicted self-reported internalizing and externalizing problems at 16 years of age, while sexualized behaviours between parents and young adolescents (e.g., sharing of intimate information, caressing, flirting, charming) were related to psychiatric symptoms at 18 years of age (Shaffer & Egeland, 2011). These studies point to the general connection between mental health difficulties and disorganized and controlling attachment in late adolescence and young adulthood. However, more research needs to be conducted given the limited studies in this area.

Parentification literature. As noted in the general introduction, although the parentification literature does not measure the complexity of disorganized and controlling attachment, it is of theoretical interest to the current study as it is similar to the concept of controlling/caregiving attachment. The parentification literature provides empirical support that young adults' accounts of childhood role reversal are related to current psychological problems. Specifically, retrospective accounts of parentification in childhood have been related to psychological problems in adulthood, including internalizing problems such as anxiety, depression, and shame (Hooper, Doehler, Wallace, & Hannah, 2011; Hooper & Wallace, 2010; Wells and Jones, 2000), and to psychological distress (Hooper, Marotta & Lanthier, 2008; Hooper & Wallace, 2010; Hooper et al., 2011).

Objectives and Hypotheses

The aim of the current study is to further assess the validity of the CDRR scales by exploring its associations to psychological outcomes that are theoretically and empirically linked to these attachment constructs, namely, problems in the separation-individuation process, unresolved feelings towards a caregiver and current psychological problems. The hypotheses are presented below:

1. *Separation-Individuation.* It is predicted that higher scores on the disorganized and controlling CDRR scales (e.g., Disorganized/Punitive mother scale, Disorganization father scale, Punitive father scale, and Affective Caregiving mother and father scales) are related to a higher score on a measure assessing for problems in the separation-individuation process. Whereas, it is expected that lower scores on the Appropriate Boundaries mother and father scales are related to a lower score on the separation-individuation measure. Given that the emergence of the Mutual Hostility

mother scale was unexpected, the association to this outcome variable is exploratory in nature.

2. *Unresolved Feelings*. It is hypothesized that higher scores on the disorganized and controlling CDRR scales will be related to higher scores on the three AUAQ scales, namely, Failed Protection/Aloneness, Anger/Dysregulation and Fear. Lower scores on the Appropriate Boundaries mother and father scale were expected to be related to lower scores on all three AUAQ scales. The association between the Mutual Hostility mother scale to these outcome variables are exploratory in nature.
3. *Psychological Problems*. It is hypothesized that higher scores on the disorganized and controlling CDRR scales will be related to higher scores on a measure assessing for psychological problems, namely, depression and anxiety, while, lower scores on the Appropriate Boundaries mother and father scales are expected to be related to decreased symptoms of depression and anxiety. The association between the Mutual Hostility mother scale to these outcome variables are exploratory in nature. Given the mixed association between psychological problems and punitive attachment in young adults, the associations between the Punitive father scale to depressive and anxiety symptoms are also exploratory in nature. It should be noted that although there are mixed results between controlling/caregiving attachment and internalizing problems in childhood, it is possible that these associations may be more evident in young adults as they can provide a more accurate self-report on their psychological well-being than informants used in childhood studies.

Method

Participants and Procedure

Study 2 involved Sample 2. Please refer to Chapter 3 for a description of this sample and its procedures. The participants from Sample 2 completed numerous measures, and the ones relating specifically to this study are presented below.

Measures

Disorganized/controlling behaviours. The Childhood Disorganization and Role Reversal Scale – Revised Version (CDRR: Meier & Bureau, 2012) is a self-report instrument assessing for young adults' current perceptions of childhood disorganization and controlling attachment towards each parent, as well as mutual hostility (with mother) and appropriate boundaries with each parent. The mother CDRR scales (62 items) consists of four scales: Disorganization/Punitive, Mutual Hostility, Affective Caregiving, and Appropriate Boundaries. The father CDRR scale (70 items) includes the following four scales: Disorganization, Punitive, Affective Caregiving, and Appropriate Boundaries. Items are rated on a 5-point Likert scale ranging from “*Completely agree/Always*” to “*Not at all/Never*”, whereby higher scores indicate increased levels of disorganized or controlling attachment representations and greater appropriate boundaries with parents. Please refer to Chapter 2 for a description of the development of the CDRR, and Chapter 3 for initial results on its reliability and validity. In the current sample, the internal consistency of the CDRR was deemed adequate through the calculation of Cronbach's alphas for the CDRR scales. However, the internal consistency of the Appropriate Boundaries father scale was low (CDRR mother version: Disorganization/Punitive = .93; Mutual Hostility = .88; Affective

Caregiving = .78; Appropriate Boundaries = .68; CDRR father version: Disorganization = .96; Punitive = .76; Affective Caregiving = .88; Appropriate Boundaries = .58)

Current psychological well-being.

Pathological problems in separation-individuation. The Separation-Individuation Inventory (SII; Christenson & Wilson, 1985) is a 39-item inventory that measures for different characteristics of pathological separation, such as the difficulty in the differentiation of self from others, splitting and experiencing relational problems. The scale demonstrated good reliability and validity psychometric properties in various studies (Christenson & Wilson, 1985; Dolan, Evans & Norton, 1992; Lapsley & Edgerton, 2002; Ryan & Lynch, 1989). In the current sample, the internal consistency of this measure was excellent (Cronbach's alpha = .93).

Unresolved feelings: Failed protection, anger and fear. The Adolescent Unresolved Attachment Questionnaire (AUAQ; West et al., 2000) is a 10-item self-report measure that assesses respondents' current perceptions on their relationship to their caregivers. Items are rated on a five-point Likert scale ranging from "Strongly disagree" to "Strongly agree". The questionnaire includes three scales: Failed Protection/Aloneness (e.g., belief that their parent is not emotionally responsive or available), Anger/Dysregulation (e.g., anger at their parent's lack of care provision) and Fear (e.g., fear of losing their parent's love). West and colleagues (2000) found that the measure had adequate 3-month temporal reliability and internal reliability (Cronbach's alpha from .66 to .71). The internal consistency of the AUAQ in this current sample was adequate, with Cronbach's alphas of .86 for the Failed Protection/Aloneness scale, .70 for the Anger/Dysregulation scale and .76 for the Fear scale.

Depressive and anxiety symptoms. The Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995) is a self-report measure consisting of 42 items assessing for symptoms related to depression, anxiety and stress. It includes three scales: Depression, Anxiety and Stress. Support was found for the convergent validity of the Anxiety and Depression scales. Using gold standard measures, it has been shown that the DASS scales discriminate participants that experience depression and anxiety from those that do not (Lovibond & Lovibond, 1995). The scales have good internal consistency (Depression = .91, Anxiety = .84 and Stress = .90) (Lovibond & Lovibond, 1995). The stress scale was not included in this study as the attachment literature did not identify stress as an outcome of disorganized and controlling attachment. In this current sample, the internal consistency of the measure's scales was excellent, with Cronbach's alphas of .95 for the Depression scale and .91 for the Anxiety scale.

Sociodemographic questionnaire: Shortened version. The author developed this questionnaire for the purposes of the current research project. The shortened version of the sociodemographic questionnaire consisted of the first part of the comprehensive version. Specifically, questions focused on past and current background information (e.g., age, gender, language, childhood family composition, identification of primary maternal and paternal caregiver, current living arrangements).

Results

Using SPSS Version 22, two MANOVA's were conducted for each CDRR parent version to determine the relationship of the CDRR scales to selected outcome variables that should be theoretically and empirically related to disorganized and controlling attachment. Both the independent variables (CDRR scales) and dependent variables (outcome variables)

were continuous, as such; the independent variables were entered in the “covariates” slot in SPSS (SPSS will recognize any variable, categorical or continuous, in the “covariates” slot as an independent variable) (V. Huta, personal communication, May 22, 2015; Taylor, 2011).

Data Screening and Assumption Testing

Variables from Sample 2 were screened for missing data, univariate and multivariate outliers and violations to the assumption of normality. The 11 cases that did not complete at least 50% of the measures were deleted, resulting in a total of 645 participants. Thirteen cases did not complete the CDRR father version, as such the sample included 632 participants for analyses with the CDRR father version. Univariate outliers were identified if cases had a z score of ± 3.29 , and their values were substituted with the second closest value at or below the cut-off criteria. No multivariate outliers were found using Mahalanobis distance statistic. Multivariate normality was inferred from univariate normality, which was assessed through the examination of skewness and kurtosis scores and normality plots. Variables were successfully normalized through square root transformations (CDRR father version: Affective Caregiving and Punitive scales), and log transformations (CDRR mother version: Disorganization/Punitive scale; CDRR father version: Disorganization scale, DASS: Depression and Anxiety scales, AUAQ: Failed Protection/Aloneness, Anger/Dysregulation, Fear scales). As missing data were below 5% for all variables, Estimation Maximization (EM) was used for data imputation. Tables 4.1 and 4.2 depict the intercorrelations among the independent and dependent variables. Using Cohen’s (1988) interpretation guidelines on correlation coefficients, most variables were moderately, but not highly related to one another and tolerance statistics of the dependent variables were all above .20, suggesting the

absence of multicollinearity (Field, 2009). There was no violation to the assumption of linearity between the independent and dependent variables.

Main Analyses

The results of the omnibus MANOVA tests demonstrated that all CDRR mother and father scales, with the exception of the Punitive father scale, predicted the combined outcome variables. Please refer to Tables 4.3 and 4.4 for the results of the multivariate omnibus and univariate tests. The interpretation of the univariate analyses will only focus on variables that have partial eta-square effect sizes at or greater than .01 as they account for at least 1% of the explained variance; they are presented in bold type within the table (V. Huta, personal communication, May 22, 2015). The Punitive father scale was not associated to the combined outcome variables; as such, associations to the individual outcome variables cannot be explored below.

Objective 1: Correlates between the CDRR scales to problems in the separation-individuation process. As expected, the Disorganization/Punitive mother scale, Disorganization father scale, and Affective Caregiving mother and father scales were positively related to the separation-individuation scale, suggesting problematic identity development. Also, as predicted, the Appropriate Boundaries mother scale was negatively related to separation-individuation problems; however, this was not found for the Appropriate Boundaries father scale. The Mutual Hostility mother scale was positively and significantly related to identity problems.

Objective 2: Correlates between the CDRR scales to unresolved feelings towards parents. As predicted, the Disorganization/Punitive mother scale and the Disorganization father scale were positively related to all AUAQ scales. Moreover, as expected, the

Appropriate Boundaries mother and father scales were negatively related to all AUAQ scales, with the exception of the Affective Caregiving mother scale and the Anger/Dysregulation scale (the effect size was nearing 1%). Contrary to the study's expectations, the Affective Caregiving scales were not significantly related to any of the AUAQ scales. In fact, the Affective Caregiving mother scale was *negatively* associated to the Failed Protection/Aloneness scale. The Mutual Hostility mother scale was positively associated to the Failed Protection/Aloneness and Anger/Dysregulation scales.

Objective 3: Correlates between the CDRR scales to psychological problems. As predicted, the Disorganization/Punitive mother scale and the Disorganization father scale were positively related to the Depression and Anxiety scales, and the Affective Caregiving father scale was positively associated to the Anxiety scale. The Affective Caregiving mother scale and the Appropriate Boundaries mother and father scales were not associated to any internalizing problems. The Mutual Hostility mother scale was positively associated to the Depression and Anxiety scales.

Discussion

To further provide support for the validity of the Childhood Disorganization and Role Reversal Scale (CDRR), a newly developed measure of young adult's perceptions of childhood disorganized and controlling attachment, the present study aimed to examine the correlates of the CDRR to outcome variables, namely, problems in identity development, unresolved feelings towards caregivers and psychological problems. Overall, the results provided partial support for the study's hypotheses. A discussion of the study's results is presented below.

Separation-Individuation, Unresolved Feelings and the CDRR Scales

As predicted, young adults' elevated scores on the disorganization scales and the Affective Caregiving scales were related to current problems in the separation-individuation process. This is consistent with research that found associations between disorganization (in infancy and adolescence) and affective caregiving (current and retrospective) to borderline personality traits and to problematic differentiation of self (Carlson et al., 2009; Jankowski & Hooper, 2012; Jankowski et al., 2013; Lyons-Ruth et al., 2013; Mayseless & Sharf, 2009; Meier et al., 2014; Wells & Jones, 1998). However, support was not provided for the study's hypotheses that young adults' perceptions of caregiving to mothers and fathers in childhood would be related to experiencing unresolved feelings towards parents (e.g., failed protection/aloneness, anger and fear of abandonment). Interestingly, caregiving to mothers was related to feeling *more* emotionally protected. This is inconsistent with Meier and colleagues' (2014) finding that compulsive caregiving to parents was related to feeling less protected by parents, fearing loss of parental love and fearing parental abandonment.

The difficulty in appropriately forming a separate identity is consistent with the process involved in affective caregiving. For instance, affective caregiving is thought to involve a child being hypervigilant to the needs of their parent, forgoing his/her own needs in order to meet the needs of his/her parent and feeling burdened or responsible in taking care of his/her parent's personal life. Individuals abdicating their own emotional and/or physical needs in order to care for their parents may feel enmeshed with them, lack awareness of their own emotional state and personal goals and link their identity to their relationship with others (i.e. maintaining an attachment relationship through caregiving for another person). Overall, the results of this study suggest that being overly attentive to the

emotional state of parents may undermine an individual's ability to separate him/herself from their parents and to perceive themselves as a separate individual.

The finding that elevated scores on the disorganization scales were related to problems in the separation-individuation process and to unresolved feelings is consistent with attachment research. Studies have noted that parental behaviours of disorganized children include frightened or frightening behaviours, disorientation, negative intrusive behaviours and affective communication errors (Abrams, Rifkin & Hesse, 2006; Lyons-Ruth, Bronfman & Parsons, 1999; Schuengel, Bakermans-Kranenburg, & van IJzendoorn, 1999). The inability of a parent to be attuned to the attachment needs of their child and to be dysregulated by those needs may leave a child unable to become aware of and integrate their own needs into their sense of self and to feel anger or resentment toward their parent's inability to respond to them in an effective manner. Moreover, these results appear to be coherent with past studies finding associations between infant and adolescent disorganized attachment (or interactions as assessed by the GPACS) to BPD traits (Carlson et al., 2009; Lyons-Ruth et al., 2013). Given the theoretical link between BPD and problematic identity development and emotional dysregulation, such as fearing abandonment and expressing anger towards others (Macfie et al., 2015), it is possible that disorganized mental representations may also be related to problems within the separation-individuation process and to unresolved feelings towards parents. For instance, one theory on the aetiology of BPD by Alder and Buie (1979) suggested that inconsistent or insensitive parenting leaves a child unable to develop proper object constancy, resulting in unstable views of self and other, while another theory by Masterson (1972) pointed to the interruption of the separation-individuation process leaving the child dependent on the parent.

Given that the Mutual Hostility mother scale assesses young adults' perceptions of having experienced an intense relationship with their mother involving conflict, and mutual feelings of frustration and anger in childhood, the association between this scale to problems in the separation-individuation process seems to suggest that an individual in such a relationship may feel ambivalence towards their mother. On the one hand, a child may yearn for their mother's attuned love, while on the other hand he/she may express anger and discontentment within this relationship. The duality of these emotions can be conceptualized as a child feeling emotionally intertwined with their mother. It is plausible that such an intense focus on the mother may hinder the child's ability to form a separate identity from their mother. Overall, these results suggest that identity development and the resolution of attachment problems (e.g., unresolved feelings) are related to disorganized and controlling attachment; however, additional research would need to replicate these findings. It would be interesting to explore differences and similarities in the identity development of young adults who hold disorganized and controlling attachment representations. For instance, as young adults who caregive hold an enmeshed relationship with their parents, they may have difficulty to develop their own distinct identity; whereas, young adults with disorganized attachment representations might experience more problematic identity development as they may lack a sense of self.

Psychological Problems and the CDRR Scales

Mixed support was provided for the expected link between the CDRR scales to psychological problems. As predicted, higher scores on the disorganization scales were related to increased symptoms of depression and anxiety, and reports of providing emotional care to fathers were related to increased symptoms of anxiety. However, no association was

found between reports of providing emotional care to mothers or holding appropriate boundaries with parents and depressive and anxiety symptoms. The association between the disorganization scales to psychological problems complements the child and adolescent attachment literature that found that disorganized attachment is a consistent predictor of mental health problems (Carlson, 1998; Carlson et al., 2009; Moss, Bureau et al., 2004; Moss, Cyr & Dubois-Comtois, 2004; O'Connor et al., 2011). Given the limited studies that have explored the psychological impact of disorganized attachment in young adulthood, the results from the current study provide support for the negative effects of disorganized attachment representations during this developmental time period.

The lack of an association between reports of caregiving to mothers and internalizing problems in this study may point to the possibility that the development of controlling/caregiving attachment is an effective strategy for a child to maintain a relationship with their mother. For instance a child may feel closer to their mother and feel better about him/herself when providing care to her. Easterbrooks and colleagues (2012) noted that caregiving tendencies might be a child's attempt to increase control and to lower distressing affect. This is supported by the study's finding that affective caregiving towards mothers is related to feeling *more* emotionally protected by mothers. Moreover, as mentioned in Chapter 2, the Affective Caregiving mother and father scales differed depending on the gender of the parent. Among these differences, providing emotional care to fathers involved feeling burdened and enmeshed with the emotional state of their father, while for mothers, it was related to perceiving a friend-like relationship with their mothers. Similar to the findings from Meier and colleagues (2014), it appears that the feeling of burden is related to psychological problems and not necessarily to the act of caring for the

parent. This is coherent with the earlier thought that the essence of role reversal is not the behaviour of caregiving but the feeling of burden (Main & Goldwyn, 1985/1995; Zeanah & Kltizke, 1991). Lastly, some attachment researchers have noted that controlling attachment may be more advantageous than disorganized attachment (Moss, Bureau, St-Laurent, & Tarabulsky, 2011; Teti, 1999) and various family system researchers have noted that in certain contexts, parentification or boundary dissolution may be adaptive and related to positive outcomes (Byng-Hall, 2008; Jurkovic, 1997; Macfie et al, 2015).

Alternatively, these results might be sample specific, where a clinical sample may have shown the predicted results. Also psychological problems may have been under-reported by young adults in order to “protect” their relationship with mother. Another possibility is that the negative effects of controlling/caregiving attachment may be more evident within interpersonal relationships, as similar to the association to problematic identity development, a caregiving young adult may experience difficulties navigating closeness and separateness in romantic relationships, engaging in reciprocal caregiving, forming intimate relationships or holding appropriate boundaries with their own child. For instance, it has been found that controlling/caregiving in middle childhood predicted experiencing physical abuse in romantic relationships during adolescence, and adolescent caregiving interactions were related to poor romantic relationship quality (Bureau, Easterbrooks & Lyons-Ruth, 2009b; Obsuth et al., 2014).

Differences in the Correlates among the Affective Caregiving Scales

The present study found interesting differences in the pattern of associations between the Affective Caregiving mother and father scales to the outcome variables. For instance, young adults’ accounts of providing emotional care to mothers in childhood was not related

to experiencing current symptoms of depression or anxiety; however, it was related to perceiving emotional protection from their mother, while for fathers it was related to experiencing anxiety. These differences may be a reflection of how mothers and fathers are viewed differently in society. For instance, mothers are typically characterized as the nurturers and fathers as the protectors (European Institute for Gender Equality, 2013). This supports Hetherington's (1999) findings from divorced families that low to moderate levels of emotional caregiving to their fathers were related to negative feelings towards their father (e.g., irritation, disgust); while only high levels of emotional caregiving to mothers were related to resentment and anger towards their mothers. Hetherington suggested that sex-stereotypes might play a role in her results as displays of vulnerability are less acceptable in males than in females and as it is more common for mothers, in contrast to fathers, to hold a friend-like relationship with their child. Moreover, perhaps children may feel anxiety when they have to provide emotional care to their father, as this may signify that their father is helpless and unable to protect them. Additionally, from prior studies, it appears that parentification to mothers is related to different outcome than parentification to fathers (Baggett, Shaffer & Muetzelfed, 2015). Specifically, it was found that boundary dissolution impacted identity development in young adult females differently depending on the parent gender, whereby parentification with mothers was linked to premature commitment to life goals and values (e.g., adherence with the values and goals of their parent without exploration of alternatives), while parentification with fathers was linked to low identity exploration and commitment to personal goals and values (Fullinwider-Bush & Jacobvitz, 1993). In another study, childhood father-daughter boundary problems were related to depression and anxiety in young adults, while only depression was associated to mother-

daughter boundary problems after controlling for physical abuse (Jacobvitz & Bush, 1996). Thus, there might be a different context in providing care to mothers and fathers, which may help to explain the current study's results. It would be important for these results to be replicated in another sample to determine the reliability of these findings.

Disorganization and Mutual Hostility: Similar Association to Psychological Outcomes and the AUAQ Scales

The emergence of the Mutual Hostility scale was unexpected, but appears theoretically related to other attachment patterns (i.e., punitive attachment, ambivalent-resistant, reciprocal punitive). As such, it was important to determine its association to the outcome variables to further clarify the nature of this attachment representation. The disorganizations scales and the Mutual Hostility had similar associations to the outcomes variables. Higher scores on both parent disorganization scales and the Mutual Hostility mother scale were positively related to depression, anxiety, problematic identity development, and to feeling emotionally unprotected and angry towards their parents. This suggests that mutual hostility cannot be simply reduced to typical mother-child disputes as youth reports' of this childhood interaction are linked to current problems in separation-individuation, internalizing problems, and unresolved feelings towards parents. The major difference between the disorganization scales and the Mutual Hostility scale was that scores on the Mutual Hostility scale were not related to fearing emotional abandonment from parents, unlike for the disorganized scales. Moreover, it appears that mutual hostility, unlike disorganization, involves a youth perceiving warmth within the parent-child relationship and trusting that their mother will not emotionally abandon him/her. As such, it can be suggested that a key difference between disorganization and mutual hostility is that a disorganized

child fears that the relationship with his/her parent is fragile and may disintegrate; however, a child in a mutually hostile relationship with his/her mother may not feel threatened that she will emotionally abandon him/her as perhaps these displays of mutually hostility suggests to the child that she is invested in the relationship, albeit in an ambivalent manner. As Easterbrooks and colleagues (2012) noted, hostile interactions between parent and child may signify that the dyad is engaged rather than emotionally withdrawn.

Punitive Father Attachment and its Lack of Association to the Combined Outcome Variable

Despite the study's hypothesis, the Punitive father scale was not related to the combined outcome variables. As such, associations to specific outcome variables could not be explored. A potential explanation for the absence of an association to psychological outcomes may be related to the differing roles that mothers and fathers play towards their child's attachment. Studies have found that mothers or adult romantic partners were identified as the primary attachment figure in samples of high school and college students in comparison to fathers (Freeman & Brown, 2001; Rosenthal & Kobak, 2010; Trinke & Bartholomew, 1997). Corresponding to these studies, a youth may be less impacted from holding a negative relationship with their father, especially when it is not intensively negative, unlike disorganized attachment. Alternatively, similar to the results between psychological outcomes and perceptions of affective caregiving to mothers, the lack of an association between psychological problems and the perceptions of a punitive relationship with fathers can be interpreted as an effective strategy. For instance, an individual may feel in control in perhaps a chaotic environment and be able to be assertive with their father. These skills may reduce the chances that an individual feels depressed and anxious, or holds

unresolved feelings towards their parents. Interestingly, when conducting principal components analyses (PCA) to determine the factor structure of the CDRR, emotional items (e.g., anger, frustration at parent) theoretically related to the punitive attachment did not load on the Punitive father scale. This suggests that this strategy may be an effective strategy in reducing emotional distress. Lastly, it is important to explore the relative impact that the punitive component of the Disorganized/Punitive mother scale has in accounting for the association to psychological problems (e.g., comparing disorganized attachment with punitive attachment representations alone and disorganization alone) in another study. Given the results from the Punitive father scale, perhaps it is only when punitive and disorganized attachment are linked that negative outcomes are found. These potential explanations of the study's results will need to be tested in subsequent research.

Limitations

Despite the study's unique contributions to the attachment field, it is not without some methodological limitations. First, the fact that this study was cross-sectional in design limits our ability in understanding how young adults' perceptions of childhood disorganized and controlling attachment predict identity development problems and psychological problems. It would be useful to employ a longitudinal research design to explore the predictive power of current perceptions of childhood disorganized and controlling attachment to the later stages of life in future studies. Also, it is important to include a more comprehensive assessment of psychological symptoms and to not focus solely on self-report measures, preferably, using a structured or semi-structured standardized interview that is based on the DSM-5. This recommendation is especially relevant to punitive attachment as it may be related to other psychological problems not assessed in the current study. Moreover,

the use of a more comprehensive assessment would allow researchers to better understand similarities and differences in the pathways of affective caregiving and punitive attachment to psychological outcomes.

Conclusions

The current study aimed to further examine the validity of a newly developed measure of young adults' perceptions of disorganized and controlling attachment, the Childhood Disorganization and Role Reversal Scale (CDRR), by determining its association to outcome variables. As expected, the results found that higher scores on the disorganization scales were positively related to identity development problems, unresolved feelings towards parents and internalizing problems. The Affective Caregiving scales were positively related to problems in the separation-individuation process and, generally, the Appropriate Boundaries scales were negatively related to unresolved feelings towards parents. Although youths' perceptions of providing emotional care to mothers were not related to internalizing problems, it does appear to be consistent with the nature of the items that constitute the scale, such as not feeling burdened. Additionally, the attachment literature has found mixed findings between controlling/attachment and internalizing problems in childhood (Bureau et al., 2009a; O'Connor et al., 2011). An unexpected result was the lack of an association between the Punitive father scale and the combined outcome variables. It would be important to increase the scope of psychological problems to better understand what factors are related to this attachment pattern in subsequent research. Interestingly, the Mutual Hostility mother scale had similar associations to the Disorganization/Punitive mother scale, suggesting that it is not simply measuring reports of typical mother-child conflict but assesses for pathological attachment representations. As such, although some of

the current study's hypotheses were not fully supported, the results generally fit with previous studies finding nuances in the association between disorganized and controlling attachment, and it provides a useful discussion in understanding the complexities and sometimes contradictory results among these attachment representations.

References

- Abrams, K., Rifkin, A., & Hesse, E. (2006). Examining the role of parental frightened/frightening subtypes in predicting disorganized attachment within a brief observational procedure. *Development and Psychopathology*, 18, 345-361.
doi:10.1017/S0954579406060184
- Adler, G. & Buie, D. (1979). Aloneness and borderline psychopathology: The possible relevance of child developmental issues. *International Journal of Psychoanalysis*, 60, 83-96
- Baggett, E., Shaffer, A., & Muetzelfeld, H. (2015). Father-daughter parentification and young adult romantic relationships among college women. *Journal of Family Issues*, 36(6), 760-783. doi:10.1177/0192513X13499759
- Blom, I., & Bergman, A. (2013). Observing development: A comparative view of attachment theory and separation-individuation theory. In J. E. Bettmann, D. D. Friedman (Eds.), *Attachment-based clinical work with children and adolescents* (pp. 9 – 43). New York, NY: Springer. doi:10.1007/978-1-4614-4848-8
- Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.
- Bowlby, J. (1973). *Attachment and loss. Vol. 2. Separation*. New York, NY: Basic Books.
- Bowlby, J. (1980). *Attachment and loss. Vol. 3. Loss*. New York, NY: Basic Books.
- Breger, L. (1974). *From instinct to identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Brumariu, L. E., Obsuth, I., & Lyons-Ruth, K. (2013). Quality of attachment relationships

and peer relationship dysfunction among late adolescents with and without anxiety disorders. *Journal of Anxiety Disorders*, 27(1), 116–124.

doi:10.1016/j.janxdis.2012.09.002

Bureau, J.-F., Easterbrooks, A., & Lyons-Ruth, K. (2009a). Attachment disorganization and controlling behaviour in middle childhood: maternal and child precursors and correlates. *Attachment & Human Development*, 11, 265-284.

doi:10.1080/14616730902814788

Bureau, J.-F., Easterbrooks, A., & Lyons-Ruth, K. (2009b, April). *The association between middle childhood controlling and disorganized attachment and family correlates in young adulthood*. Paper presented at the biennial meeting of the Society for Research in Child Development, Denver, CO.

Bureau, J.-F., Martin, J., Freynet, N., Poirier, A. A., Lafontaine, M.-F., & Cloutier, P., (2010). Perceived dimensions of parenting and non-suicidal self-injury in young adults. *Journal of Youth and Adolescence*, 39, 484-494. doi:10.1007/s10964-009-9470-4

Byng-Hall, J. (2008). The crucial roles of attachment in family therapy. *Journal of Family Therapy*, 30, 129–146. doi:10.1111/j.1467-6427.2008.00422.x

Carlson, E. A. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child Development*, 69, 1107-1128. doi:10.2307/1132365

Carlson, E. A, Egeland, B., & Sroufe, L. A. (2009). A prospective investigation of the development of borderline personality symptoms. *Development and Psychopathology*, 21(4), 1311–1334. doi:10.1017/S0954579409990174

Christenson, R.M., & Wilson, W.P. (1985). Assessing pathology in the separation-

- individuation process by an inventory: A preliminary report. *Journal of Nervous and Mental Disease*, 173, 561-565. doi:10.1097/00005053-198509000-00007
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey, NY: Lawrence Erlbaum.
- Dolan, B. M., Evans, C., & Norton, K. (1992). The Separation-Individuation Inventory: Association with borderline phenomena. *Journal of Nervous and Mental Disease*, 180, 529–533. doi:10.1097/00005053-199208000-00009
- Easterbrooks, M. A., Bureau, J.-F., & Lyons-Ruth, K. (2012). Developmental correlates and predictors of emotional availability in mother–child interaction: A longitudinal study from infancy to middle childhood. *Development and Psychopathology*, 24, 65–78. doi:10.1017/ S0954579411000666
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York, NY: W. W. Norton.
- European Institute for Gender Equality. (2013). A study of collected narratives on gender perceptions in the 27 EU Member states: Synthesis report. Luxembourg: Publications Office of the European Union. doi:10.2839/18824
- George, C., & Solomon, J. (2008). The caregiving system. A behavioural systems approach to parenting. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 833-856). New York, NY: Guilford Press.
- Field, A. (2009). *Discovering statistics using IBM SPSS statistics* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Finger, B. (2006). *Exploring the intergenerational transmission of attachment disorganization* (Unpublished doctoral dissertation). University of Chicago,

Chicago, IL.

- Freeman, H., & Brown, B. B. (2001). Primary attachment to parents and peers during adolescence: Differences by attachment style. *Journal of Youth and Adolescence*, 30(6), 653–674. doi:10.1023/A:1012200511045
- Fullinwider-Bush, N., & Jacobvitz, D. B. (1993). The transition to young adulthood: Generational boundary dissolution and female identity development. *Family Process*, 32, 87-103. doi:10.1111/j.1545-5300.1993.00087.x
- Hetherington, E. M. (1999). Should we stay together for the sake of the children? In E. M. Hetherington (Ed.), *Coping with divorce, single parenting, and remarriage: A risk and resiliency perspective* (pp. 93 -116). Mahwah, NJ: Lawrence Erlbaum.
- Hooper, L. M., Doehler, K., Wallace, S. A., & Hannah, N. J. (2011). The Parentification Inventory: Development, validation, and cross-validation. *The American Journal of Family Therapy*, 39(3), 226-241. doi:10.1080/01926187.2010.531652
- Hooper, L. M., Marotta, S. A., & Lanthier, R. P. (2008). Predictors of growth and distress following childhood parentification: A retrospective exploratory study. *Journal of Child and Family Studies*, 17, 693–705. doi:10.1007/s10826-007-9184-8
- Hooper, L. M., & Wallace, S. A. (2010). Evaluating the parentification questionnaire: Psychometric properties and psychopathology correlates. *Contemporary Family Therapy*, 32(1), 52–68. doi:10.1007/s10591-009-9103-9
- Jacobvitz, D., & Bush, N. F. (1996). Reconstructions of family relationships: Parent-child alliances, personal distress, and self-esteem. *Developmental Psychology*, 32, 732-743. doi:10.1037/0012-1649.32.4.732
- Jankowski, P. J., & Hooper, L. M. (2012). Differentiation of self: A validation study of

- the Bowen theory construct. *Couple and Family Psychology: Research and Practice*, 1, 226-243. doi:10.1037/a0027469
- Jankowski, P. J., Hooper, L. M., Sandage, S. J., & Hannah, N. J. (2013). Parentification and mental health symptoms: Mediator effects of perceived unfairness and differentiation of self. *Journal of Family Therapy*, 35, 43–65. doi:10.1111/j.1467-6427.2011.00574.x
- Jurkovic, G. J. (1997). *Lost childhoods: The plight of the parentified child*. New York, NY: Brunner/Mazel.
- Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships*. Vol. 5. (pp. 205–237). London, England: Kingsley.
- Lapsley, D. K., & Edgerton, J. (2002). Separation-individuation, adult attachment style and college adjustment. *Journal of Counseling and Development*, 80, 484–493. doi:10.1002/j.1556-6678.2002.tb00215.x
- Loevinger, J. (1976). *Ego development*. San Francisco, CA: Jossey–Bass.
- Lovibond, S. H. & Lovibond, P. F. (1995). *Manual for the Depression anxiety Stress Scales*. (2nd ed.). Sydney, Australia: Psychology Foundation.
- Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Maternal frightened, frightening, or atypical behaviour and disorganized infant attachment patterns. In J. Vondra & D. Barnett (Eds.) Atypical patterns of infant attachment: Theory, research, and current directions. *Monographs of the Society for Research in Child Development*, 64 (3, Serial No.258), 67-96. doi:10.1111/1540-5834.00034

Lyons-Ruth, K., Brumariu, L. E., Bureau, J.-F., Hennighausen, K. & Holmes, B. (2014).

Role confusion and disorientation in young adult-parent interaction among individuals with borderline symptomatology, *Journal of Personality Disorders*, 28, 1–22. doi:10.1521/pedi_2014_28_165

Lyons-Ruth, K., Bureau, J.-F., Holmes, B., Easterbrooks, A., & Brooks, N. H. (2013).

Borderline symptoms and suicidality/self-injury in late adolescence: Prospectively observed relationship correlates in infancy and childhood. *Psychiatry Research*, 206, 273–281. doi:10.1016/j.psychres.2012.09.030

Lyons-Ruth, K., & Jacobvitz, D. (2008). Attachment disorganization: Genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 666-697). New York, NY: Guilford Press.

Macfie, J. (2009). Development in children and adolescents whose mothers have borderline personality disorder. *Child Development Perspectives*, 3(1), 66–71. doi:10.1111/j.1750-8606.2008.00079.x.

Macfie, J., Brumariu, L. E., & Lyons-Ruth, K. (2015). Parent–child role-confusion: A critical review of an emerging concept. *Developmental Review*, 36, 34–57. doi:10.1016/j.dr.2015.01.002

Mahler, M. S., Pine, F., & Bergman, A. (1975). *The psychological birth of the human infant*. New York, NY: Basic Books.

Main, M. & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6: predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology* 24, 415-426. doi:10.1037//0012-1649.24.3.415

- Main, M. and Goldwyn, R. (1985/1995). *The Adult Attachment Interview classification and scoring system* (Unpublished manuscript). University of California, Berkeley, California.
- Martins, C., & Gaffan, E. A. (2000). Effects of early maternal depression on patterns of infant-mother attachment: A meta-analytic investigation. *Journal of Child Psychology and Psychiatry*, 41(6), 737–746. doi:10.1111/1469-7610.00661
- Masterson, J. (1972). *Treatment of the Borderline Adolescent: A Developmental Approach*. New York, NY: Wiley.
- Mayseless, O., & Scharf, M. (2009). Too close for comfort: Inadequate boundaries with parents and individuation in late adolescent girls. *The American Journal of Orthopsychiatry*, 79(2), 191–202. doi:10.1037/a0015623
- Meier, M., & Bureau, J.-F. (2012). *Childhood Disorganization and Role Reversal Scale: Revised version* (Unpublished document). School of Psychology, University of Ottawa, Ottawa, Canada.
- Meier, M., Martin, J., Bureau, J.-F., Speedy, M., Levesque, C., & Lafontaine, M.-F. (2014). Psychometric properties of the Mother and Father Compulsive Caregiving Scales: A brief measure of current young adult caregiving behaviors toward parents. *Attachment & Human Development*, 16(2), 174–191. doi:10.1080/14616734.2013.870809
- Melnick, P. M., Finger, S., Hans, B., Patrick, S., & Lyons-Ruth, K. (2008). Hostile-helpless states of mind in the AAI: A proposed additional AAI Category with implications for identifying disorganized infant attachment in high-risk samples. In

- H. Steele & M. Steele (Eds.), *Clinical applications of the Adult Attachment Interview* (pp. 399-424). New York, NY: Guilford Press.
- Moss, E., Bureau, J.-F., Cyr, C., Mongeau, C., & St-Laurent, D. (2004). Correlates of attachment at age 3: Construct validity of the preschool attachment classification system. *Developmental Psychology*, 40, 323–334. doi:10.1037/0012-1649.40.3.323
- Moss, E., Bureau, J.-F., St. Laurent, D., & Tarabulsky, G. (2011). Understanding disorganized attachment at preschool and school age: Examining divergent pathways of disorganized and controlling children. In J. Solomon & C. George (Eds.), *Attachment disorganization* (2nd ed., pp. 52-79). New York, NY: Guilford.
- Moss, E., Cyr, C., & Dubois-Comtois, K. (2004). Attachment at early school age and developmental risk: Examining family contexts and behaviour problems of controlling-caregiving, controlling–punitive, and behaviourally disorganized children. *Developmental Psychology*, 40, 519-532. doi:10.1037/0012-1649.40.4.519
- Moss, E., Smolla, N., Cyr, C., Dubois-Comtois, K., Mazzarello, T., & Berthiaume, C. (2006). Attachment and behavior problems in middle childhood as reported by adult and child informants. *Development and Psychopathology*, 18(2), 425–444. doi:10.1017/S0954579406060238
- Obsuth, I., Hennighausen, K., Brumariu, L. E., & Lyons-Ruth, K. (2014). Disorganized behavior adolescent-parent interaction: Relations to attachment state of mind, partner abuse, and psychopathology. *Child Development*, 85(1), 370–387. doi:10.1111/cdev.12113
- O'Connor, E., Bureau, J.-F., McCartney, K., & Lyons-Ruth, K. (2011). Risk and outcomes associated with disorganized/controlling patterns of attachment at age three years in

the National Institute of Child Health & Human Development Study of Early Child Care and Youth Development. *Infant Mental Health Journal*, 32, 450-472.

doi:10.1002/imhj.20305

Rosenthal, N. L., & Kobak, R. (2010). Assessing adolescents' attachment hierarchies:

Differences across developmental periods and associations with individual adaptation. *Journal of Research on Adolescence*, 20(3), 678-706.

doi:10.1111/j.1532-7795.2010.00655.x

Ryan, R. M., & Lynch, J. H. (1989). Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Development*, 60, 340-356. doi:10.2307/1130981

Scharf, M., Mayseless, O. (2007). Putting eggs in more than one basket: A new look at developmental processes of attachment in adolescence. In M. Scharf, & O. Mayseless (Eds). *Attachment in Adolescence: Reflections and New Angles: New Directions for Child and Adolescent Development* (No. 117, pp. 1-22). San Francisco: Jossey-Bass (Wiley). doi:10.1002/cd.191

Schuengel, C., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (1999). Frightening maternal behavior linking unresolved loss and disorganized infant attachment. *Journal of Consulting and Clinical Psychology*, 67, 54-63. doi:10.1037/0022-006x.67.1.54

Shaffer, A., & Egeland, B. (2011). Intergenerational transmission of familial boundary dissolution: Observations and psychosocial outcomes in adolescence. *Family Relations*, 60(3), 290-302. doi:10.1111/j.1741-3729.2011.00653.x

Solomon, J., & George, C. (1999). The place of disorganization in attachment theory:

- Linking classic observations with contemporary findings. In J. Solomon & C. George (Eds.), *Attachment disorganization* (pp. 3-32). New York, NY: Guilford.
- Solomon, J., George, C., & De Jong, A. (1995). Children classified as controlling at age six: Evidence of disorganized representational strategies and aggression at home and school. *Development and Psychopathology*, 7, 447–464. doi:10.1037/e334362004-015
- Steele, M., Bate, J., Nikitiades, A., & Buhl-Nielsen, B. (2015). Attachment in adolescence and borderline personality disorder. *Journal of Infant, Child, and Adolescent Psychotherapy*, 14(1), 16–32. doi:10.1080/15289168.2015.1004882
- Taylor, A. (2011). *Using the GLM procedure in SPSS*. Department of Psychology Macquarie University. Retrieved from psy.mq.edu.au/psystat/documents/GLMSPSS.pdf
- Teti, D.M. (1999). Conceptualizations of disorganization in the preschool years. In J. Solomon & C. George (Eds.), *Attachment disorganization* (pp. 213–242). New York, NY: Guilford Press.
- Trinke, S. J., & Bartholomew, K. (1997). Hierarchies of Attachment Relationships in Young Adulthood. *Journal of Social and Personal Relationships*, 14(5), 603–625. doi:10.1177/0265407597145002
- van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, 117, 387–403. doi:10.1037/0033-2909.117.3.387
- van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. (1999). Disorganized

attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11, 225-249.

doi:10.1017/S0954579499002035

Wartner, U. G., Grossman, K., Fremmer-Bombik, E., & Suess, G. (1994). Attachment patterns at age six in South Germany: Predictability from infancy and implications for preschool behaviour. *Child Development*, 65, 1014-1027. doi:10.2307/1131301

Wells, M., & Jones, R. (1998). Relationship among childhood parentification, splitting, and dissociation: Preliminary findings. *The American Journal of Family Therapy*, 26, 331-339. doi:10.1080/01926189808251111

Wells, M., & Jones, R. (2000). Childhood parentification and shame-proness: A preliminary study. *The American Journal of Family Therapy*, 28, 19-27.

doi:10.1080/019261800261789

West, M., Rose, S., Spreng, S., & Adam, K. (2000). The adolescent unresolved attachment questionnaire: The assessment of perceptions of parental abdication of caregiving behaviour. *The Journal of Genetic Psychology*, 161, 493-503.

doi:10.1080/00221320009596727

Zeanah, C. H., & Klitzke, M. (1991). Role reversal and the self-effacing solution:

Observations from infant-parent psychotherapy, *Psychiatry*, 54, 346-357.

Table 4.1

Means, Standard Deviations, and Intercorrelations between Psychological Outcome Measures and the CDRR Mother Version (N = 645)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Depression	--									
2. Anxiety	.72**	--								
3. Sep-Ind.	.57**	.54**	--							
4. Failed Protection	.39**	.35**	.37**	--						
5. Anger	.34**	.33**	.35**	.55**	--					
6. Fear	.36**	.33**	.40**	.57**	.46**	--				
7. Disorganization/ Punitive	.39**	.43**	.40**	.55*	.42**	.44**	--			
8. Affective Caregiving	.13**	.19**	.26**	-.04	.05	.05	.31**	--		
9. Mutual Hostility	.40**	.37**	.34**	.50**	.37**	.35**	.68**	.11*	--	
10. Appropriate Boundaries	-.16**	.17**	-.24**	-.31**	-.22**	-.25**	-.35**	-.11*	-.24**	--
<i>M</i>	22.40	21.13	145.94	7.00	6.08	4.68	41.67	27.73	24.67	39.07
<i>SD</i>	8.50	7.10	49.56	3.19	2.43	2.38	14.74	6.91	8.18	7.36

Note: Depression (DASS); Anxiety (DASS); Sep-Ind. = Separation-Individuation Problems (SII); Failed Protection (AUAQ); Anger (AUAQ); Fear (AUAQ); Disorganization/Punitive (CDRR); Affective Caregiving (CDRR); Mutual Hostility (CDRR); Appropriate Boundaries (CDRR).

* $p < 0.01$, ** $p < 0.001$.

Table 4.2

Means, Standard Deviations, and Intercorrelations between Psychological Outcome Measures and the CDRR Father Version
(*N* = 632)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Depression	--									
2. Anxiety	.73***	--								
3. Sep-Ind.	.57***	.54***	--							
4. Failed Protection	.39***	.34***	.38***	--						
5. Anger	.34***	.33***	.36***	.56***	--					
6. Fear	.35***	.33***	.41***	.57***	.46***	--				
7. Disorganization	.42***	.38***	.43***	.58***	.39***	.46***	--			
8. Affective Caringiving	.24***	.32***	.34***	.21***	.16***	.21***	.45***	--		
9. Punitive	.10*	.13***	.17***	.18***	.14***	.16***	.42***	.30***	--	
10. Appropriate Boundaries	-.14***	-.10*	-.16***	-.30***	-.22***	-.29***	-.29***	.05	-.01	--
<i>M</i>	22.37	21.11	145.92	6.97	6.05	4.70	69.21	33.33	16.92	25.48
<i>SD</i>	8.46	7.11	49.60	3.16	2.41	2.36	24.69	10.59	5.41	4.41

Note: Depression (DASS); Anxiety (DASS); Sep-Ind. = Separation-Individuation Problems (SII); Failed Protection (AUAQ); Anger (AUAQ); Fear (AUAQ); Disorganization (CDRR); Affective Caregiving (CDRR); Punitive (CDRR); Appropriate Boundaries (CDRR).

p* < 0.05, *p* < 0.01, ****p* < 0.001.

Table 4.3

Associations between the CDRR Mother Version and Psychological Outcomes (Controlling for all CDRR Mother Scales) (N = 645)

CDRR Mother Scales								
Disorganization/Punitive			Affective Caregiving		Mutual Hostility		Appropriate Boundaries	
Multivariate Omnibus F^a (η^2_p)								
20.17*** (.16)			13.55*** (.11)		6.60*** (.06)		4.14*** (.04)	
Univariate Analyses ^b								
Outcome Variables	Overall F (η^2_p)	β	Overall F (η^2_p)	β	Overall F (η^2_p)	β	Overall F (η^2_p)	β
Depression	14.13*** (.02)	.15	0.77 (.001)	.04	26.34*** (.04)	.20	.62 (.001)	-.04
Anxiety	29.83*** (.05)	.23	4.79* (.007)	.08	10.77*** (.02)	.12	.48 (.001)	.04
Sep. Ind.	15.62*** (.02)	.16	19.48*** (.03)	.17	9.62** (.02)	.12	9.60** (.02)	-.12
Failed Protection	91.44*** (.13)	.40	42.91*** (.06)	-.24	19.54*** (.03)	.16	16.98*** (.03)	-.12
Anger	35.76*** (.05)	.24	4.16* (.006)	-.08	7.75** (.01)	.12	5.73* (.009)	-.08
Fear	52.98*** (.08)	.27	5.61* (.009)	-.08	2.14(.003)	.08	9.21** (.01)	-.12

Note: η^2_p = partial eta-squared. β = Standardized beta coefficient. Depression (DASS); Anxiety (DASS); Sep. Ind. = Separation-Individuation Problems (SII); Failed Protection (AUAQ); Anger (AUAQ); Fear (AUAQ). Bolded values indicate partial eta-square effect sizes at or greater than .01.

^aAll multivariate omnibus tests used Wilks' Lambda statistic. ^bUnivariate F test derived from MANOVA.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4.4

Associations between the CDRR Father Version and Psychological Outcomes (Controlling for all Father CDRR Scales) (N = 632)

CDRR Father Scales								
Disorganization			Affective Caregiving		Punitive		Appropriate Boundaries	
Multivariate Omnibus F^a (η^2_p)								
43.01*** (.29)			7.81*** (.07)		1.60 (.02)		4.74*** (.04)	
Univariate Analysis ^b								
Outcome Variables	Overall F (η^2_p)	β	Overall F (η^2_p)	β	Overall F (η^2_p)	β	Overall F (η^2_p)	β
Depression	86.74*** (.12)	.35	4.32* (.007)	.06	7.23** (.01)	-.09	.33 (.001)	-.04
Anxiety	43.76*** (.07)	.28	24.12*** (.04)	.20	2.36 (.004)	-.05	.35 (.001)	-.04
Sep. - Ind.	52.60*** (.08)	.29	26.82*** (.04)	.21	.44 (.001)	-.03	4.44* (.007)	-.08
Failed Protection	203.07*** (.25)	.58	0.6 (.001)	-.03	2.83 (.004)	-.08	14.56*** (.02)	-.20
Anger	61.40*** (.09)	.29	0.06 (.001)	.01	.22 (.001)	-.02	9.06** (.01)	-.10
Fear	84.16*** (.12)	.36	1.31 (.002)	.05	.44 (.001)	-.03	23.34*** (.03)	-.16

Note: η^2_p = partial eta-squared. β = Standardized beta coefficient. Depression (DASS); Anxiety (DASS); Sep. Ind. = Separation-Individuation Problems (SII); Failed Protection (AUAQ); Anger (AUAQ); Fear (AUAQ). Bolded values indicate partial eta-square effect sizes at or greater than .01.

^aAll multivariate omnibus tests used Wilks' Lambda statistic. ^bUnivariate F test derived from MANOVA.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

CHAPTER 5:

General Discussion

General Discussion

Summary of Thesis Objectives

Childhood disorganized attachment is a key predictor of concurrent and subsequent negatives outcomes, such as internalizing and externalizing problems (Lyons-Ruth & Jacobvitz, 2008). Prior studies have found a strong basis for the transformation of infant disorganization to controlling/caregiving or controlling/punitive attachment during the preschool years (Main & Cassidy, 1988; Wartner, Grossman, Fremmer-Bombik, & Suess, 1994), and its link to concurrent psychological problems (Bureau, Easterbrooks & Lyons-Ruth, 2009; Moss, Cyr, & Dubois-Comtois, 2004; O'Connor, Bureau, McCartney, & Lyons-Ruth, 2011). Although it is expected that these psychological problems may also be evident in young adults identifying with disorganized and controlling attachment, limited studies have explored such associations. The majority of these studies have used an observational measure (i.e., GPACS; Lyons-Ruth, Henninghausen, & Holmes, 2005) to assess for disorganized and controlling attachment or an in-depth semi-structured interview (i.e., AAI: George, Kaplan, & Main, 1985/1996) to assess for unresolved attachment states of mind. Although these measures provide useful information, they pose logistical issues, such as lengthy administration time, financial cost and extensive training for clinicians and researchers interested in studying these attachment behaviours. A self-report measure, although limiting in other ways, would address the majority of these challenges. To the knowledge of the author, there currently is no existing self-report measure that comprehensively assesses for disorganized and controlling attachment representations in young adults. The *Childhood Disorganization and Role Reversal Scale* (CDRR: Meier &

Bureau, 2012) was developed to fill the gap in the assessment of young adult's perceptions of childhood disorganization and controlling attachment representations.

This research project had three main objectives. The first objective was the development of the CDRR. It was guided by the suggestions of scholars in scale development using classical measurement theory (Clark & Watson, 1995; DeVellis, 2012; Netemeyer, Bearden & Sharma, 2003; Nunnally & Bernstein, 1994; Pedhazur & Schmelkin, 1991; see Slavec & Drnovšek, 2012). The construction of the items for the CDRR was guided by attachment and family systems literature (i.e., parentification). The second objective, constituting Study 1, aimed to assess the psychometric properties of the CDRR, namely, structural stability, internal reliability, temporal reliability, convergent and discriminant validity (when appropriate) and criterion-related validity (i.e., aetiology of disorganized and controlling attachment). Lastly, the third objective, involving Study 2, sought to provide further support for the validity of the CDRR by exploring its associations to psychological outcomes consistent with the literature, namely, problems in the separation-individuation process, unresolved feelings towards a caregiver, and current psychological well-being. A discussion of the results are presented in the following section.

Key Findings

This research project developed a self-report measure of young adults' perceptions of childhood disorganization and controlling attachment. Chapter 2 presented the development of the CDRR, which included reviewing the attachment and parentification literature to develop construct domains of disorganized, controlling/caregiving and controlling/punitive attachment, creating items based on the identified construct domains, selecting the scale and response option format (e.g., Likert scale, bipolar, 5 response options), and pilot-testing the

items to ensure readability and clarity of the scale. Principal components analyses (PCA) were performed to determine the CDRR's factor structure and for item reduction; they were conducted separately for each parent to allow for differences among the CDRR parent versions. As existing measures of attachment assess for mother-child and father-child relationship quality in a similar manner, such as using the same items and coding system, the development of the CDRR allowed for variability among the parent versions. Based on the results of the PCA, a four-factor structure emerged for the CDRR mother and father version, with similarities and differences among the parent scales. The CDRR mother version includes the following scales: Disorganization/Punitive, Mutual Hostility, Affective Caregiving, and Appropriate Boundaries, while the CDRR father version includes the following scales: Disorganization, Affective Caregiving, Appropriate Boundaries, and Punitive.

Overall, this research project achieved its aim by developing a self-report measure of disorganized and controlling attachment representations in young adults, while including items and factors unique to each parent version. The next step was to determine if the factor structure derived from the initial PCAs were robust in a second sample, and to assess the psychometric properties of the CDRR. As found in Study 1, in general, the CDRR mother and father version displayed adequate psychometric properties in the given sample. Confirmatory factor analyses (CFA) provided support for the structural stability of the four-factor structure for both parent versions. Both CDRR parent versions showed adequate internal consistency and 3 to 4-month temporal reliability. Support was provided for the convergent and discriminant validity of the Affective Caregiving mother and father scales using existing parentification measures, and discriminant validity of the Appropriate

Boundaries mother and father scales given their minimal or lack of association to the parentification measures. Criterion-related validity was established for the CDRR scales using selected childhood risk variables (i.e., parental divorce, family financial problems, parental mental health, parental substance abuse and parental domestic conflict/violence). The risk variables were related to higher scores on the disorganized and controlling CDRR scales, with the exception of divorce on the CDRR mother version (as a combined outcome). The risk variables were either negatively associated or non-significantly associated to the Appropriate Boundaries mother and father scales. Moreover, the correlations among the CDRR scales were consistent with the attachment literature. For instance, generally, the disorganized and controlling scales were positively associated to one another, and negatively related or non-significantly related to the Appropriate Boundaries scale. Although support was provided for the reliability and validity of the CDRR with the population used, some components of the CDRR may require further refinement; these future endeavours will be discussed in the “Limitations and Directions for Future Research” section.

Further support for the validity of the CDRR was provided in Study 2, whereby the associations between the CDRR scales to psychological outcomes were examined. As predicted, problems in the separation-individuation process were related to the disorganized and controlling scales, unresolved feelings towards parents were related to the disorganized scales and internalizing problems were related to the disorganized scales and to the Affective Caregiving father scale. However, unexpectedly, unresolved feelings towards parents was unrelated or related in the opposite direction with reports of providing emotional care to parents. Also, internalizing problems were not related to reports of providing emotional care to mothers or in maintaining appropriate boundaries with parents. Unexpectedly, the

Punitive father scale was unrelated to the combined outcome variables. As the Mutual Hostility mother scale was unanticipated, Study 2 aimed to gain a better sense of what it measures through examining its associations to concurrent psychological problems. This scale had similar patterns of associations to the Disorganized/Punitive mother scale, suggesting that young adults' perceptions of mutual hostility with their mothers can be destructive in certain contexts. These results provide strong support for the validity of the disorganization scales and moderate support for the controlling and appropriate boundaries scales. Through the examination of the results on the psychometric properties of the CDRR, the current research study met its aim of developing a psychometrically sound measure assessing for young adults' perceptions of childhood disorganized and controlling attachment towards their parents. The results also point to unexpected findings that may help to broaden our understanding of disorganized and controlling attachment during young adulthood, as well as in considering areas of improvement when further refining the CDRR.

Collective Implications Across Studies

Similarities and differences among the CDRR mother and father versions. As mentioned in Study 1, both the CDRR mother and father version had a four-factor structure and generally assess for disorganized and controlling attachment representations, and appropriate boundaries. Interestingly, there were notable differences among the parent versions, which are consistent with the goal of the current research project to develop a scale that is unique to each parent gender.

First, punitive and disorganized attachment representations were merged within one scale for the CDRR mother version, while separate scales of disorganized and punitive attachment representations were present in the CDRR father version. These findings point to

the possibility that disorganized attachment representations manifest themselves differently in young adulthood depending on the gender of the parent. The attachment literature conceptualizes the transformation of disorganized attachment to controlling attachment to children's increased cognitive and psychomotor abilities, and to their abilities to seek emotional and/or physical protection from their parents by altering their own behaviours (goal-corrected behaviours) (Bowlby, 1969/1982; Marvin, 1977; Marvin & Britner, 2008). It is possible that a child may be more likely to engage in controlling behaviours towards their mother than their father who displays frightening or frightened behaviours in order to reduce their own distress, as the mother may appear less intimidating. For instance, it may be more overwhelming and disorganizing to see parental disorganized characteristics by a father than by a mother, as children usually spend more time with their mother and, consequently may be more acclimated to her hostile and helpless patterns and as she may engage in less severe abusive behaviours. Moreover, some disorganized behaviours, such as appearing helpless, may have a stronger association with female gender stereotypes than with male stereotypes of being the "protector" and "strong" (European Institute for Gender Equality, 2013). Alternatively, children may either be disorganized or punitive with fathers, as some fathers may be perceived as frightening, while others may be viewed as vulnerable and incompetent within their parenting role. It is possible that other parental behaviours may lead to disorganized and punitive attachment representations. That said, these are speculative explanations for the combination of punitive and disorganized attachment representations in mother-child dyads and the separate attachment representations in father-child dyads. It is also possible that these results are sample specific.

Second, there were apparent similarities and differences in the components of providing care to mothers and fathers. For both mothers and fathers, young adults' perceptions of childhood affective caregiving involved suppressing their attachment needs to care for their parent, internalizing their caregiving role and reporting that their parent actively engaged them in a caregiving role. However, reports of providing emotional care to fathers also involved the feeling of being burdened, pressured and enmeshed with the emotional state of their father, while with mothers it involved perceiving a friend-like relationship and experiencing mood congruence with their mother's positive emotions. Given these differences, it would be useful to explore if these differing patterns of providing care to parents is also related to different psychological outcomes. From the examination of the results from Study 2, it appears that not only does the mechanism of providing care to mothers and fathers differ, but it also leads to different outcomes consistent with the different nature of providing care to mothers and fathers. For instance, consistent with feeling burdened and pressured to provide care to fathers, young adults also reported feeling increased anxiety, while for mothers, they felt more emotionally protected by her, which is coherent with perceiving a friend-like relationship with their mother and feeling happy when their mother was happy. Although, it should be noted that accounts of providing care to mothers and fathers were related to difficulties in the separation-individuation process.

It can be argued that the differences among the Affective Caregiving scales are related to differing risk profiles; however, as found in Study 1, reports of providing emotional care to mothers and fathers were positively related to similar childhood risk variables, namely, parental domestic conflict/violence, parental substance abuse, parent mental health problems and family financial problems. One question that emerges is what

accounts for these gender differences? Although it is possible that other risk factors not assessed in this research project may contribute to the differing results, such as the severity of parental mental health problems or experiences of childhood abuse, it also presents the case that societal norms of the mother and father role, as well as the female and male role, may have an impact on how parental helplessness is perceived by the child. For example, in a recent qualitative study across 27 European countries ($n = 216$), narratives on gender stereotypes were obtained. Mothers (and women) were portrayed as being nurturing, caring, warm, relationally-focused, sensitive, vulnerable and weak; while fathers (and men) were described as protectors, tough, confident, competitive, ambitious, responsible, rational, breadwinners and worldly (European Institute for Gender Equality, 2013). Deater-Deckard and Dodge (1997) postulated that children's interpretations of their caregivers' parenting behaviours are influenced by the extent to which these behaviours are normative within their culture. Severe deviations from perceiving a father as the "protector", "strong" or "confident", may lead a child feeling anxious as they view their father as helpless and unable to protect them. It may also deviate from the typical father-child bond, where it is uncommon for the child to provide reassurance and emotional support to their father and leaving them to experience these behaviours as a burden. On the other hand, providing emotional care to mothers may be viewed as more normative than providing care to fathers. For instance, Hetherington (1999) noted that consistent with gender-stereotypes, it is more common for divorced mothers to engage their child in a companion-like relationship. Moreover, Hetherington found that children experience negative emotions (e.g., disgust, irritation, resentment) towards fathers engaging them in moderate to high levels of emotional

parentification, while for mothers, only high levels of parentification were related to negative emotions. That being said, not all individuals endorse those traditional gender stereotypes.

Additionally, Sroufe, Jacobvitz, Mangelsdorf, DeAngelo and Ward (1985), noted another form of role reversal that involved parental seductive behaviours toward their child (e.g., intense affectionate behaviours), termed “spousification” (Sroufe & Ward, 1980), which was more frequently observed in opposite-sex parent-child relationships (i.e., mother-son relationships) than in same-sex parent-child relationships (i.e., mother-daughter relationships). It is possible that this pattern would also extend to father-daughter relationships. Given that the majority of the sample included females, providing care to fathers may possibly lead to other inappropriate behaviours, and leading to more psychological problems. Additionally, providing emotional care to mothers involved more friend-like behaviours. These behaviours may be perceived as less deleterious to the youth or perhaps they may report fewer psychological problems in order to protect their mother. That being said, providing emotional care to mothers and fathers was related to problematic identity formation, thus it will be important to further assess the outcomes of these interpersonal patterns.

Third, differences were also found on the Appropriate Boundaries mother and father scales. For the mother-child dyad, young adults perceived appropriate boundaries with their mother when she was emotionally independent from them, showed appreciation for their work and set appropriate limits; while for the father-child dyad, they perceived appropriate boundaries (e.g., fair, concerned about their well-being, setting limits) within a relational context of mutual warmth. It would be important to assess the reliability of these differences given some issues found concerning the internal consistency of the Appropriate Boundaries

father scale (discussed in greater detail in the limitations section). That said, the differences in the scales suggest that young adults perceiving a healthy and secure relationship with their mother involves both authoritative-like parenting and emotional independence from them, while for fathers it involves authoritative-like parenting and maintaining a loving relationship. This is in line with Paquette's (2004) view that the specific role of mothers on child development includes being affectionate, nurturing, comforting, and for fathers it involves promoting independence, exploring the outside world, and forming an "activation relationship". Mothers may be more comfortable in providing affection and fathers may be more likely to provide independence. The ability of a parent to promote both nurturance and autonomy may lead to more security in a child. Last, the CDRR mother version included a scale assessing for mutual hostility between mother and child, the emergence of this scale will be further discussed in the following sections.

To the author's awareness, this is the first self-report measure within attachment theory to allow for unique elements of youths' perceptions on their relationship with their mothers and fathers to be captured. Attachment researchers (Bretherton, 2010; Grossman, Grossman, Kindler & Zimmerman, 2008) are beginning to explore the unique role of mothers and fathers towards their child's attachment. The study provided preliminary support that certain elements of youths' attachment representations differ among their mothers and fathers. This finding provides further support for the need to continue to consider the parent gender when developing measures of attachment.

Can affective caregiving be adaptive in certain situations? Traditionally, attachment theory has viewed parent-child role reversal as pathological. Although, the attachment literature has found mixed findings between controlling/caregiving attachment

and internalizing problems in childhood (Bureau, et al., 2009; Moss et al., 2004; O'Connor, et al., 2011) and adulthood (Brumariu, Obsuth & Lyons-Ruth, 2013; Meier, Martin, Bureau, Speedy, Levesque & Lafontaine, 2014; Obsuth, Hennighausen, Brumariu & Lyons-Ruth, 2014), generally these results have not been interpreted as signifying that this attachment pattern may lead to non-destructive outcomes, with the exception of a few attachment researchers noting that it may be advantageous for a disorganized child to develop controlling attachment (Moss, Bureau, St-Laurent, & Tarabulsky, 2011; Teti, 1999). Additionally, within the family systems literature, there has been a discussion of the possibility that parentification or boundary dissolution may be related to positive outcomes (Byng-Hall, 2008; Jurkovic, 1997; Macfie, Brumariu & Lyons-Ruth, 2015). A few studies have found positive outcomes related to retrospective accounts of childhood parentification in young adults, such as an increased sense of competence, positive coping skills and post-traumatic growth (Hooper, Marotta & Lanthier, 2008; Stein, Rotheram-Borus & Lester, 2007; Thirkield, 2002) or to a positive parent-child relationship when the behaviours are consistent with an individual's cultural norms (Khafi, Yates & Luthar, 2014; Kuperminc, Jurkovic & Casey 2009).

A major difference between the Affective Caregiving mother and father scales was that perceptions of providing care to fathers involved feeling burdened or pressured to care. The link between anxiety and the Affective Caregiving father scale, but not with the mother scale is consistent with Meier and colleagues' (2014) finding that young adults' who felt autonomous when confronted with their parents' personal problems was related to fewer psychological problems than when feeling burdened when providing emotional care to their parents. Additionally, in Study 2, youths' accounts of providing care to mothers were related

to feeling *more* emotionally protected by their mother. As such, it appears that these caregiving tendencies result in an individual successfully obtaining closeness from their mother and possibly in maintaining their relationship. As noted by some attachment researchers, parents of controlling/caregiving children tend to view their child positively and feel more emotionally connected to their child (George & Solomon, 1996; Hetherington, 1999). One study found that there were reductions in parental anxiety and depression with increases in their child's controlling behaviours (Moss, Bureau, St. Laurent, & Tarabulsky, 2011). Thus, although these caregiving behaviours may result in youth experiencing difficulties in developing a separate identity, they appear to be emotionally connected with their parent, and they may feel competent, useful and appreciated by him/her. Unlike disorganized attachment, which is theorized as a child feeling abandoned and rejected by their parent (George & Solomon, 2008), controlling/caregiving attachment involves child behaviours aimed at increasing emotional connection with their parent, or as Easterbrooks, Bureau and Lyons-Ruth (2012) noted, child caregiving behaviours enable the parent to be emotionally engaged in the parent-child relationship. As such, a child that has learned how to adapt to their parent's emotional problems may feel competent and proud in assisting their parent and these behaviours may even improve the relationship with his or her parent. Thus, coming from a model of resiliency, providing care to parents may involve the development of important interpersonal skills (e.g., empathy, support, encouragement, problem-solving), and functional skills (e.g., household responsibilities, finances) that can be transferable in the future, such as in developing friendships, living independently and building intimacy. It would be valuable in subsequent research to assess if these results are replicated in another sample in order to gain a better understanding of how the parent-child relationship quality is

impacted by these attachment patterns, as well as to assess the impact of feeling burdened on the parent-child relationship.

Greater understanding of the Mutual Hostility and Appropriate Boundaries

scales: What are they measuring? As noted in Study 1, although coherent with attachment theory, the emergence of the Mutual Hostility and Appropriate Boundaries scales was unexpected. It was previously mentioned in Study 1 that the Mutual Hostility scale may reflect components of the reciprocally punitive attachment strategy coded on the GPACS (Lyons-Ruth et al., 2005), measuring for mutual attempts by the parent and child to control interactions through the expression of hostile, attacking or punishing statements.

Alternatively, although it has been noted that both punitive and ambivalent attachment in children involves aggressive behaviours, in ambivalent attachment these behaviours are not for the purposes of controlling the parent but are due to feeling enmeshed with their parent (Cassidy & Marvin, 1992; Solomon, George & De Jong, 1995). Consequently, it is not clear what form of attachment the Mutual Hostility scale assesses. Exploring this scale's associations to childhood risk variables and psychological outcomes may help to better clarify its scope. The Mutual Hostility scale shows an identical pattern of associations to childhood risk variables and psychological outcomes as the Disorganized/Punitive scale, with the exception of perceiving emotional abandonment from their parent. These results suggest that this scale is measuring pathological attachment representations similar to disorganized representations with the key difference of feeling unloved when disorganized with mothers. This also suggests that this attachment representation is most likely not reflecting normative mother-child conflict emerging during this developmental time period, but it is signalling serious disruptions within the mother-child relationship. It would be

worthwhile in subsequent research to assess the link between the Mutual Hostility scale to measures of punitive attachment (GPACS) and preoccupied attachment (AAI) to further clarify its scope.

The Appropriate Boundaries mother and father scales were not intentionally devised but appear to be consistent with the concept of secure attachment and sensitive parenting. The attachment literature has found links between attachment security, as assessed by the AAI, to lower psychological problems in adulthood (Hesse, 2008). Across the two current studies, preliminary support was provided for the Appropriate Boundaries scales measuring positive accounts of the parent-child relationship. Notably, childhood risk variables (i.e., paternal divorce, family financial problems and parental substance abuse) were related to lower scores on the Appropriate Boundaries scales and the scales were negatively related to problematic identity development (mother only, father showing a trend) and to unresolved feelings towards their parents. Interestingly, it was unrelated to internalizing problems on both parent versions; this suggests that these scales may be predictive of psychological outcomes that are more interpersonally based and not generalizable to problems outside the parent-child relationship.

Clinical Implications

The development of the CDRR was prompted by the absence of an existing measure that conveniently assesses for the complexities of disorganized and controlling attachment representations in young adults. The CDRR aimed to meet these needs by developing a measure using a self-report format which omits the lengthy administration time, financial cost and extensive training needed for other commonly used observational or interview-based measures of disorganized and controlling attachment or unresolved states of mind (i.e.,

GPACS, AAI) in young adults. Although there exists a self-report measure on controlling/caregiving attachment for young adults situated within attachment theory (Mother and Father Compulsive Caregiving Scales: Meier et al., 2014), it does not assess for disorganized or controlling/punitive attachment. Based on the results of the current research project, it has achieved its goal of finding initial support for the psychometric properties of the CDRR. It is hoped that the CDRR will be used in clinical settings to inform case conceptualization and treatment planning, as well as in research settings to further develop our understanding of these attachment constructs in young adulthood.

Given that the CDRR measures affective, cognitive and behavioural markers of disorganized and controlling attachment, treatment planning should ideally focus on modifying these markers. For instance, Schema Therapy, developed by Jeffry Young (1990; 1999), integrates Cognitive Behaviour Therapy, Experiential Therapy and Psychodynamic Therapy into a unified theory that views psychopathology as a person having maladaptive schemas, or unhelpful cognitions about self and other, which originate in childhood experiences where attachment and self needs were not met by their parents (Young, Klosko & Weishaar, 2003). The concept of “schemas” is coherent with the attachment concept of “internal working models” and this form of therapy could play an integral role in changing individuals’ disorganized or controlling schemas through the use of cognitive interventions to support them in challenging and modifying their view of self and other (e.g., “Other people are not safe”, “I have to take care of others to be loved”, “I have to control my physical environment in order to be safe”); behavioural interventions to help them to adopt different attachment strategies (e.g., a young adult identified with disorganized tendencies may be invited to seek a supportive friend or romantic partner, while someone with affective

caregiving tendencies may be invited to be assertive and reach out for emotional care); experiential techniques to help them gain awareness of their emotions and unmet needs; and psychodynamic interventions to assist them in exploring in-session reactions to their therapist and to provide “re-parenting” opportunities.

Also, among most CDRR scales, problems in identity development were present. Although these findings are preliminary, they are coherent with the existing literature that reports links between current disorganized and caregiving tendencies to borderline personality disorder (Lyons-Ruth, Brumariu, Bureau, Hennighausen & Holmes, 2014; Meier et al., 2014). Given the above, it would be important for young adults with disorganized and/or controlling attachment representations to receive therapeutic support in developing their identity. The achievement of this goal may require developing an identity separate from pivotal relationships (separation part of the identity development process) or gaining a better sense of their needs and affective states (individuation part of the identity development process).

Lastly, the studies’ results are consistent with the literature that found mixed results between controlling/caregiving attachment and psychological problems in children and young adults. It is important to be cautious to interpret caregiving behaviours as pathological. Additionally, it would be useful to consider how the individual perceives and reacts to those behaviours, such as not feeling burdened or pressured or feeling unprotected by their parent, and how consistent these behaviours are to the individual’s cultural and societal norms. Moreover, it would be useful to explore the positive consequences of displaying caregiving behaviours and if they are an individual’s relative strength, such as holding family values, being a respectful, loyal and caring person. Engaging the individual in

a discourse on when those caregiving behaviours become dysfunctional can promote self-efficacy, and skills in being assertive and in setting appropriate boundaries.

Limitations and Directions for Future Research

Although the current studies provide significant contributions to the existing literature by developing a measure on disorganized and controlling attachment representations in young adults, additional research is required to further assess its psychometric properties and to refine the scale. First, although it is common in research to use undergraduate student sample pools, the results may not be generalizable to community or clinical samples. It would be useful to confirm the factor structure of the CDRR and its' association to the variables used for validity testing with more diverse samples. Given the link between maltreatment and low family income to infant disorganization (Cyr, Euser, Bakermans-Kranenburg, & van IJzendoorn, 2010; van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999), it would be beneficial in future studies using the CDRR to use at-risk samples. Moreover, it would be useful to take a longitudinal approach to examine the link between childhood risk to the CDRR and subsequent psychological outcomes. Another general limitation of the CDRR is that it is a self-report measure and carries susceptibilities to positive or negative self-representations, and social desirability biases. Although, it is regarded as a strength, the unique items and scales of the CDRR mother and father version make it difficult to compare parent scales. Moreover, as the majority of the participants were females, it would be important to recruit more males in subsequent samples.

For the further refinement of the CDRR, it would be useful to reduce the scale's length, particularly for the disorganization scales. Also, given the low internal consistency of

the Appropriate Boundaries scales reported in Study 2, as well as low factor loadings on one of its parcels in the confirmatory factor analysis (CFA), it would be important to assess the inclusion of the Appropriate Boundaries in future revisions of the CDRR or to change some items to increase its reliability. Moreover, as punitive attachment is characterized in more behavioural terms, it presents with some challenges when measuring accounts of these overt behaviours using a self-report measure. Also, as these behaviours often go against societal conventions, unlike for controlling/caregiving attachment, it is recommended that the items of the Punitive scale be revised to include items that may be more likely endorsed by individuals with controlling/punitive attachment. It may be useful to conduct a focus group with such individuals to determine the language they use when describing their relationship with their parents. A focus group could also be used to obtain more information on how interactions with mothers and fathers differ in order to add more gender specific items. Lastly, it is recommended to use observational measures, such as the GPACS, for the assessment of convergent validity in subsequent studies.

Conclusions

This research project aimed to fill the gap on existing measures that assess for young adult's perceptions of childhood disorganized and controlling attachment by developing a convenient self-report measure that comprehensively assesses for those assessment constructs, the *Childhood Disorganization and Role Reversal Scale* (CDRR). Additionally, the CDRR is a novel measure that consists of unique scales on youths' attachment representations towards their mothers and fathers. These unique parent scales will help in better understanding the unique contributions that fathers and mothers provide to their child's attachment. Overall, initial support was provided for the psychometric properties of

the CDRR, namely structural reliability, internal consistency, temporal reliability, convergent and discriminant validity (when appropriate) and criterion-related validity. The associations between CDRR scales to psychological outcomes were also assessed to further support the validity of the newly developed scale. Generally, support was provided for the validity of the CDRR. This research project also highlights the importance for future studies to explore the unique role that mothers and fathers play in their child's attachment.

Moreover, the emergence of the Mutual Hostility scale suggests that there might be another pathological mother-child interaction to explore both within research and within a clinical setting. The current research project also mentioned next steps for the refinement of the CDRR, which includes further reducing the number of items, adding other items that may better capture punitive attachment and unique elements of mother-child and father-child relational patterns, and continuing to test the psychometric properties of the CDRR with diverse samples. Overall, the CDRR has shown to be a useful tool in assisting researchers to understand the psychological outcomes of disorganized and controlling attachment representations in young adulthood.

References (General introduction and discussion)

- Abrams, K., Rifkin, A., & Hesse, E. (2006). Examining the role of parental frightened/frightening subtypes in predicting disorganized attachment within a brief observational procedure. *Development and Psychopathology*, 18, 345-361.
doi:10.1017/S0954579406060184
- Ainsworth, M.D.S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Alexander, P. (2003). Parent-child role reversal: Development of a measure and test of an attachment theory model. *Journal of Systemic Therapies*, 22, 31-44.
doi:10.1521/jsyt.22.2.31.23349
- Boszormenyi-Nagy, I., & Sparks, G. (1973). *Invisible loyalties: Reciprocity in intergenerational family therapy*. New York, NY: Brunner/Mazel.
- Bowlby, J. (1953). *Child care and the growth of love*. Harmondsworth, England: Penguin.
- Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.
- Bowlby, J. (1973). *Attachment and loss. Vol. 2. Separation*. New York, NY: Basic Books.
- Bowlby, J. (1977). The making and breaking of affectional bonds. Aetiological and psychopathology in the light of attachment theory. *The British Journal of Psychiatry*, 130, 201-210. doi:10.1192/bjp.130.3.201
- Bowlby, J. (1980). *Attachment and loss. Vol. 3. Loss*. New York, NY: Basic Books.
- Bowlby, J. (1988). *A secure base*. New York, NY: Basic Books.
- Bureau, J.-F., Easterbrooks, M.A., Killam, S., & Lyons-Ruth, K. (2006). *Middle Childhood*

Disorganization and Controlling Scales (Unpublished coding manual). Harvard Medical School, Cambridge, MA.

Bureau, J.-F., Easterbrooks, A., & Lyons-Ruth, K. (2009). Attachment disorganization and controlling behaviour in middle childhood: maternal and child precursors and correlates. *Attachment & Human Development, 11*, 265-284.

doi:10.1080/14616730902814788

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Growing points in attachment theory and research. Monographs of the Society for Research in Child Development, 50*(1-2, Serial No. 209), 3-35. doi:10.2307/3333824

Bretherton, I. (1990). Open communication and internal working models: The role in the development of attachment relationships. In R. A. Thompson (Ed.), *Nebraska Symposium on Motivation, 1988, Vol. 36. Socioemotional development* (pp. 57-113). Lincoln, OR: University of Nebraska Press.

Bretherton, I. (2010). Fathers in attachment theory and research: A review. *Early Child Development and Care, 180*, 9-23. doi:10.1080/03004430903414661

Brumariu, L. E., Obsuth, I., & Lyons-Ruth, K. (2013). Quality of attachment relationships and peer relationship dysfunction among late adolescents with and without anxiety disorders. *Journal of Anxiety Disorders, 27*(1), 116-124.

doi:10.1016/j.janxdis.2012.09.002

Byng-Hall, J. (2008). The crucial roles of attachment in family therapy. *Journal of Family Therapy, 30*, 129-146. doi:10.1111/j.1467-6427.2008.00422.x

Carlson, E. A. (1998). A prospective longitudinal study of attachment disorganization/

- disorientation. *Child Development*, 69, 1107-1128. doi:10.2307/1132365
- Carlson, E. A, Egeland, B., & Sroufe, L. A. (2009). A prospective investigation of the development of borderline personality symptoms. *Development and Psychopathology*, 21(4), 1311–1334. doi:10.1017/S0954579409990174
- Cassidy, J., & Marvin, R. S. (1992). *Attachment organization in preschool children: Procedures and coding manual* (Unpublished manual). University of Virginia, Charlottesville, VA.
- Chase, N. D. (1999). *Burdened children. Theory, research and treatment of parentification*. London, England: Sage
- Clark, L., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319. doi:10.1037/1040-3590.7.3.309
- Collins, N. L., Guichard, A. C., Ford, M. B., & Feeney, B. C. (2004). Working models of attachment: New developments and emerging themes. In W.S. Rholes & J.A. Simpson (Eds.), *Adult attachment: Theory, research, and clinical implications* (pp. 196–239). New York, NY: Guilford Press.
- Collins, N. L., & Read, S. J. (1994). Cognitive representations of attachment: The structure and function of working models. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Attachment processes in adulthood. Vol. 5.* (pp. 53-90). London: Kingsley.
- Cyr, C., Euser, E. M., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2010). Attachment security and disorganization in maltreating and high-risk families: a series

of meta-analyses. *Development and Psychopathology*, 22, 87–108.

doi:10.1017/S0954579409990289

Deater-Deckard, K., & Dodge, K.A. (1997). Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*, 8, 161–175. doi:10.1207/s15327965pli0803_1

Deklyen, M., Greenberg, M. (2008). Attachment and psychopathology in childhood. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 666-697). New York, NY: Guilford Press.

DeVellis, R. F. (2012). *Scale development: Theory and applications* (3rd ed.). Thousand Oaks, CA: Sage.

Dozier, M., Stovall-McClough, K. C. & Albus, K. E. (2008). Attachment and psychopathology in adulthood. In Cassidy, J. & Shaver P.R. (Eds.), *Handbook of attachment* (2nd ed., pp. 718-744). New York, NY: Guilford Press.

Easterbrooks, M. A., Bureau, J.-F., Lyons-Ruth, K. (2012). Developmental correlates and predictors of emotional availability in mother–child interaction: A longitudinal study from infancy to middle childhood. *Development and Psychopathology*, 24, 65-78. doi:10.1017/S0954579411000666

European Institute for Gender Equality. (2013). A study of collected narratives on gender perceptions in the 27 EU Member states: Synthesis report. Luxembourg: Publications Office of the European Union. doi:10.2839/18824

George, C., Kaplan, N., & Main, M. (1985/1996). *The Adult Attachment Interview protocol* (Unpublished manuscript). University of California, Berkeley.

George, C., & Solomon, J. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal*, 17, 198-216.

doi:10.1002/(SICI)10970355(199623)17:3<198::AID-IMHJ2>3.0.CO;2-L

George, C., & Solomon, J. (2008). The caregiving system. A behavioural systems approach to parenting. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 833-856). New York, NY: Guilford Press.

Grossmann, K., Grossmann, K. E., Kindler, H., & Zimmermann, P. (2008). A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 857–879). New York, NY: Guilford Press.

Hennighausen, K.H., Bureau, J.-F., David, D., Hauser, S.T., & Lyons-Ruth, K. (2011). Disorganized attachment in adolescence. In (Eds.). J. Solomon, & C. George (Eds.) *Attachment disorganization* (2nd ed, pp. 207-244.). New York, NY: Guilford Press.

Hesse, E. (2008). The adult attachment interview: Protocol, method of analysis, and empirical studies. In J. Cassidy and P.R. Shaver (Eds.) *Handbook of attachment: Theory, research, and clinical applications* (pp. 552-598). New York, NY: Guilford Press.

Hesse, E., & Main, M., (2006). Frightened, threatening, and dissociative parental behavior in low-risk samples: Description, discussion, and interpretations. *Development and Psychopathology*, 18, 309–343. doi:10.1017/S0954579406060172

Hetherington, E. M. (1999). Should we stay together for the sake of the children? In E.

- M. Hetherington (Ed.), *Coping with divorce, single-parenting, and remarriage: A risk and resilience perspective* (pp. 93–116). New York, NY: Erlbaum.
- Hooper, L. M. (2009). *Parentification Inventory*. Department of Department of Educational and Counseling Psychology, Counseling, and College Personnel, University of Louisville, Louisville, Kentucky.
- Hooper, L. M., Marotta, S. A., & Lanthier, R. P. (2008). Predictors of growth and distress following childhood parentification: a retrospective exploratory study. *Journal of Child and Family Studies*, 17, 693–705. doi:10.1007/s10826-007-9184-8
- Hooper, L. M., & Wallace, S. A. (2010). Evaluating the parentification questionnaire: Psychometric properties and psychopathology correlates. *Contemporary Family Therapy*, 32(1), 52–68. doi:10.1007/s10591-009-9103-9
- Jacobvitz, D., Leon, K., & Hazen, N. (2006). Does expectant mothers' unresolved trauma predict frightened/frightening maternal behavior? Risk and protective factors. *Development and Psychopathology*, 18, 363–379. doi:10.1017/S0954579406060196
- Jankowski, P. J., Hooper, L. M., Sandage, S. J., & Hannah, N. J. (2013). Parentification and mental health symptoms: Mediator effects of perceived unfairness and differentiation of self. *Journal of Family Therapy*, 35, 43–65. doi:10.1111/j.1467-6427.2011.00574.x
- Jurkovic, G. J. (1997). *Lost childhoods: The plight of the parentified child*. New York, NY: Brunner/Mazel.
- Jurkovic, G. J., Jessee, E. H., Goglia, L. R. (1991). Treatment of parental children and their families: Conceptual and technical issues. *American Journal of Family Therapy*, 19, 302–314. doi:10.1080/01926189108250862

- Khafi, T. Y., Yates, T. M., & Luthar, S. S. (2014). Ethnic differences in the developmental significance of parentification. *Family Process*, 53(2), 267–287.
doi:10.1111/famp.12072
- Kuperminc, G. P., Jurkovic, G. J., & Casey, S. (2009). Relation of filial responsibility to the personal and social adjustment of Latino adolescents from immigrant families. *Journal of Family Psychology*, 23(1), 14–22. doi:10.1037/a0014064
- Liotti, G. (2004). Trauma, dissociation, and disorganized attachment: Three strands of a single braid. *Psychotherapy: Theory, Research, Practice, Training*, 41, 472–86.
doi:10.1037/0033-3204.41.4.472
- Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Maternal frightened, frightening, or atypical behaviour and disorganized infant attachment patterns. In J. Vondra & D. Barnett (Eds.) *Atypical patterns of infant attachment: Theory, research, and current directions. Monographs of the Society for Research in Child Development*, 64 (3, Serial No. 258), 67-96. doi:10.1111/1540-5834.00034
- Lyons-Ruth, K., Brumariu, L. E., Bureau, J.-F., Hennighausen, K. & Holmes, B. (2014). Role confusion and disorientation in young adult-parent interaction among individuals with borderline symptomatology, *Journal of Personality Disorders*, 28, 1–22. doi:10.1521/pedi_2014_28_165
- Lyons-Ruth, K., Bureau, J.-F., Holmes, B., Easterbrooks, A., & Brooks, N. H. (2013). Borderline symptoms and suicidality/self-injury in late adolescence: Prospectively observed relationship correlates in infancy and childhood. *Psychiatry Research*, 206, 273–281. doi:10.1016/j.psychres.2012.09.030
- Lyons-Ruth, K., Easterbrooks, A., & Cibelli, C. (1997). Infant attachment strategies, infant

- mental lag, and maternal depressive symptoms: Predictors of internalizing and externalizing problems at age 7. *Developmental Psychology*, 33, 681-692. doi:D012-1649/97/S3.00.
- Lyons-Ruth, K., Hennighausen, K., & Holmes, B. (2005). *Goal-corrected partnership in adolescence coding system (GPACS): Coding manual, Version 2* (Unpublished document). Department of Psychiatry, Harvard Medical School, Cambridge, MA.
- Lyons-Ruth, K., & Jacobvitz, D. (2008). Attachment disorganization: Genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 666-697). New York, NY: Guilford Press.
- Macfie, J., Brumariu, L. E., & Lyons-Ruth, K. (2015). Parent–child role-confusion: A critical review of an emerging concept. *Developmental Review*, 36, 34–57. doi:10.1016/j.dr.2015.01.002
- Main, M. & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6: predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology* 24, 415-426. doi:10.1037//0012-1649.24.3.415
- Main, M., Goldwyn, R., & Hesse, E. (2002). *Adult Attachment Classification system Version 7.2* (Unpublished manuscript). University of California, Berkeley, California.
- Main, M. & Goldwyn, R. (1985/1995). *The Adult Attachment Interview classification and scoring system* (Unpublished manuscript). University of California, Berkeley, California.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to

- infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 161-182). Chicago, IL: University of Chicago Press.
- Main, M., Hesse, E., & Goldwyn, R. (2008). Studying differences in language usage in recounting attachment history: An introduction to the AAI. In H. Steele & M. Steele (Eds.), *Clinical applications of the adult attachment interview* (pp. 31-68). New York, NY: The Guilford Press.
- Main, M., Kaplan, N. & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Growing points in attachment theory and research. Monograph of the Society for Research in Child Development*, 50(1-2, Serial No. 209), 66-104. doi:10.2307/3333827
- Main, M. & Solomon, J. (1990). Procedures for identifying disorganized/disoriented infants during the Ainsworth Strange Situation. In M. Greenberg, D. Cicchetti & M. Cummings (Eds.), *Attachment in the preschool years* (pp. 121-160). Chicago, IL: University of Chicago Press.
- Marvin, R. S. (1977). An ethological–cognitive model of the attenuation of mother–child attachment behavior. In T. Alloway, L. Krames, & P. Pilner (Eds.), *Advances in the study of communication and affect: Attachment behaviour, Vol. 3.* (pp. 25–60). New York, NY: Plenum Press.
- Marvin, R. S. & Britner, P. A. (2008). Normative development: The ontogeny of

- attachment. In J. Cassidy & P. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed., pp. 269-294). New York, NY: Guilford Press.
- Meier, M., & Bureau, J.-F. (2012). *Childhood Disorganization and Role Reversal Scale: Revised version* (Unpublished document). School of Psychology, University of Ottawa, Ottawa, Canada.
- Meier, M., Martin, J., Bureau, J.-F., Speedy, M., Levesque, C., & Lafontaine, M.-F. (2014). Psychometric properties of the Mother and Father Compulsive Caregiving Scales: A brief measure of current young adult caregiving behaviors toward parents. *Attachment & Human Development*, 16(2), 174–191.
doi:10.1080/14616734.2013.870809
- Mika, P., Bergner, R. M., & Baum, M. C. (1987). The development of a scale for the assessment of parentification. *Family Therapy*, 14(3), 229–235.
- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Moss, E., Bureau, J.-F., Cyr, C., Mongeau, C., & St-Laurent, D. (2004). Correlates of attachment at age 3: Construct validity of the preschool attachment classification system. *Developmental Psychology*, 40, 323–334. doi:10.1037/0012-1649.40.3.323
- Moss, E., Bureau, J.-F., St. Laurent, D., & Tarabulsy, G. (2011). Understanding disorganized attachment at preschool and school age: Examining divergent pathways of disorganized and controlling children. In J. Solomon & C. George (Eds.), *Attachment disorganization* (2nd ed., pp. 52-79). New York, NY: Guilford.
- Moss, E., Cyr, C., Bureau, J.-F., Tarabulsy, G. M., & Dubois-Comtois, K. (2005).

- Stability of attachment during the preschool period. *Developmental Psychology*, 41(5), 773–783. doi:10.1037/0012-1649.41.5.773
- Moss, E., Cyr, C., & Dubois-Comtois, K. (2004). Attachment at early school age and developmental risk: Examining family contexts and behaviour problems of controlling-caregiving, controlling–punitive, and behaviourally disorganized children. *Developmental Psychology*, 40, 519–532. doi:10.1037/0012-1649.40.4.519
- Moss, E., Thibaudeau, P., Cyr, C., & Rousseau, D. (2001, April). Controlling attachment and child management of parental emotion. In D. R. Pederson & C. A. DeOliviera (Chairs), *Attachment and the socialization of emotions*. Symposium conducted at the biennial meeting of the Society for Research in Child Development, Minneapolis, MN.
- Netemeyer, R. G., Bearden, W.O. & Sharma, S. (2003). *Scaling procedures: issues and applications*. Thousand Oaks, CA: Sage Publications.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw Hill, Inc.
- Obsuth, I., Hennighausen, K., Brumariu, L. E., & Lyons-Ruth, K. (2014). Disorganized behavior adolescent-parent interaction: Relations to attachment state of mind, partner abuse, and psychopathology. *Child Development*, 85(1), 370–387. doi:10.1111/cdev.12113
- O'Connor, E., Bureau, J.-F., McCartney, K., & Lyons-Ruth, K. (2011). Risk and outcomes associated with disorganized/controlling patterns of attachment at age three years in the National Institute of Child Health & Human Development Study of Early Child Care and Youth Development. *Infant Mental Health Journal*, 32, 450–

472. doi:10.1002/imhj.20305

Ogawa, J. R., Sroufe, L.A., Weinfield, N.S., Carlson, E.A. & Egeland, B. (1997).

Development and the fragmented self: Longitudinal study of dissociative symptomatology in a nonclinical sample. *Development and Psychopathology*, 9, 855-879. doi:10.1017/S0954579497001478

Oppenheim, D., & Waters, H. S. (1995). Narrative processes and attachment

representations: Issues of development and assessment. In E. Waters, B. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), *Culture, caregiving, and cognition: Perspectives on secure base phenomena and attachment working models. Monographs of the Society for Research in Child Development*, 60(2-3, Serial No. 244), 197-215. doi:10.1111/j.1540-5834.1995.tb00212.x

Paquette, D. (2004). Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development*, 47(4), 193–219. doi:10.1159/000078723

Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design, and analysis: An integrated approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Schuengel, C., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (1999).

Frightening maternal behavior linking unresolved loss and disorganized infant attachment. *Journal of Consulting and Clinical Psychology*, 67, 54–63. doi:10.1037/0022-006X.67.1.54

Sessions, M., & Jurkovic, G. (1986). *The Parentification Questionnaire*. Department of Psychology, Georgia State University, Atlanta, GA.

Shi, Z., Bureau, J.-F., Easterbrooks, M. A., Zhao, X., Lyons-Ruth, K., (2011). Childhood

- maltreatment and prospectively observed quality of early care as predictors of antisocial personality disorder. *Infant Mental Health Journal* 33, 1–14.
doi:10.1002/imhj.20295
- Slavec, A., & Drnovšek, M. (2012). A perspective on scale development in entrepreneurship research. *Economic and Business Review*, 14(1), 39–62.
- Sloman, L. Atkinson, L., Milligan, K. & Liotti, G. (2002) Attachment, social rank, and affect regulation: Speculations on an ethological approach to family interaction. *Family Process*, 41, 479-493. doi:10.1111/j.1545-5300.2002.41304.x
- Solomon, J., George, C., & De Jong, A. (1995). Children classified as controlling at age six: Evidence of disorganized representational strategies and aggression at home and school. *Development and Psychopathology*, 7, 447–464. doi:10.1037/e334362004-015
- Sroufe, L. A., & Ward, J. J. (1980). Seductive behavior of mothers of toddlers: Occurrence, correlates, and family origins. *Child Development*, 51, 1222–1229.
doi:10.2307/1129564
- Sroufe, L. A., Jacobvitz, D., Mangelsdorf, S., DeAngelo, E., & Ward, M. J. (1985). Generational boundary dissolution between mothers and their preschool children: A relationship systems approach. *Child Development*, 56(2), 317–325.
doi:10.2307/1129722
- Stein, J. A., Rotheram-Borus, M. J., & Lester, P. (2007). Impact of parentification on long-term outcomes among children of parents with HIV/AIDS. *Family Process*, 46(3), 317–333. doi:1111/j.1545-5300.2007.00214.x.
- Thirkield, A. L. C. (2002). *The role of fairness in emotional and social outcomes of*

- childhood filial responsibility*. Dissertation Abstracts International: Section B: Sciences and Engineering, 62(12-B), 5982. AAI3036391.
- Teti, D.M. (1999). Conceptualizations of disorganization in the preschool years. In J. Solomon & C. George (Eds.), *Attachment disorganization* (pp. 213–242). New York, NY: Guilford Press.
- Wartner, U. G., Grossman, K., Fremmer-Bombik, E., & Suess, G. (1994). Attachment patterns at age six in South Germany: Predictability from infancy and implications for preschool behaviour. *Child Development*, 65, 1014–1027. doi:10.2307/1131301
- van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, 117, 387–403. doi:10.1037/0033-2909.117.3.387
- van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11, 225–249. doi:10.1017/S0954579499002035
- Young, J. E. (1990). *Cognitive therapy for personality disorders*. Sarasota, FL: Professional Resources Press.
- Young, J. E. (1999). *Cognitive therapy for personality disorders: A schema-focused approach (rev. ed.)*. Sarasota, FL: Professional Resources Press.
- Young, J. E., J. S. Klosko, & M. E. Weishaar (2003). *Schema therapy: A practitioner's guide*. New York, NY: Guilford.
- Zeanah, C. H., & Klitzke, M. (1991). Role reversal and the self-effacing solution:

Observations from infant-parent psychotherapy, *Psychiatry*, 54, 346-357.