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ATTACHMENT QUALITY ACROSS CONTEXTS: THE MEDIATING ROLE OF
COGNITIVE-AFFECTIVE TRAITS

by

Christian Ammons

A Dissertation
Submitted to the Graduate School,
the College of Education and Human Sciences
and the School of Psychology
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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ABSTRACT

Attachment quality throughout the lifespan has been found to be impacted by a variety of factors including prior attachments with parents and other adults (Rholes, Simpson, & Friedman, 2006). The mechanisms that impact the transmission of attachment to parent-child attachment quality has not been fully explored. Individual differences such as traits involving appraisal of self and others and affective components have been found to be important in relationship functioning across contexts (Eisenberg, 2000). Thus, the current study evaluated the relationship between adult attachment quality and parent-child attachment quality and specifically examined the mediating effects of cognitive-affective traits (i.e. trait forgiveness, trait gratitude, guilt and shame proneness) on this relationship. The current study also evaluated the differences between mothers and fathers. Participants consisted of 424 parents (55.4% mothers and 44.6% fathers) of children ages 6-18 years old, within the continental United States. Participants self-reported their demographic characteristics, attachment quality with adults in their lives, attachment quality with their children, and their trait gratitude, forgiveness, and proneness to experience guilt and shame. Results demonstrated adult attachment predicted parent-child attachment quality and was partially mediated by trait gratitude, reparative action tendency, and withdraw action tendency (both indicators of guilt and shame proneness). Results suggested the potential for continuity of attachment quality in the parent-child attachment dyad is partially explained by these cognitive-affective traits. Results also found there were no meaningful differences between fathers and mothers suggesting these mechanisms operate similarly despite prior research supporting differences between mothers and fathers. Implications, limitations, and direction for

future research were discussed.

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DEDICATION

This dissertation is dedicated to my family in all forms, biological and chosen. Thank you for allowing me the space to question my world, supporting me through the challenges, and caring for me in my growth.

TABLE OF CONTENTS

ABSTRACT ii

ACKNOWLEDGMENTS iv

DEDICATION v

LIST OF TABLES viii

LIST OF ILLUSTRATIONS ix

CHAPTER I - INTRODUCTION 1

 Attachment Quality Across Contexts: The Mediating Role of Cognitive-Affective
 Traits 1

 Attachment 2

 Adult attachment 4

 Cognitive Affective Traits 8

 Trait forgiveness 10

 Trait gratitude 13

 Guilt proneness 15

 Shame proneness 17

 The Current Study 19

 Research Questions and Hypotheses 21

CHAPTER II - METHODS 22

 Participants and Procedures 22

Demographics.	27
Revised Inventory of Parent and Peer Attachment.	28
Gratitude Questionnaire-6.....	30
Trait Forgiveness Scale.....	31
Guilt and Shame Proneness Scale.....	31
Experiences in Close Relationships – Relationships Structures Questionnaire.....	32
Data Analysis.....	33
CHAPTER III - RESULTS.....	36
Model 1 Results – Guilt Proneness.....	37
Model 2 Results – Shame Proneness.....	39
Invariance Testing.....	42
CHAPTER IV – DISCUSSION.....	45
APPENDIX A – IRB Approval Letter.....	53
APPENDIX B – Informed Consent	55
APPENDIX C – Demographic Questionnaire	57
REFERENCES	59

LIST OF TABLES

Table 1 Parent Demographic Characteristic of the Sample	24
Table 2 Demographic Characteristics of the Sample – Child.....	26
Table 3 Means, Standard Deviations, and Correlations for all Study Variables	36
Table 4 Model 1 (Guilt Proneness) Invariance Testing Results between Mothers and Fathers.....	43
Table 5 Model 2 (Shame Proneness) Invariance Testing Results between Mothers and Fathers.....	44

LIST OF ILLUSTRATIONS

Figure 1. Standardized factor loading of items on dimensions of parent-child attachment quality (PC Alienation and PC Trust)..... 30

Figure 2. Standardized regression coefficients for the relationship between adult attachment and parental attachment, controlling for cognitive-affective traits (trait forgiveness, trait gratitude, guilt proneness)..... 39

Figure 3. Standardized regression coefficients for the relationship between adult attachment and parental attachment, controlling for cognitive-affective traits (trait forgiveness, trait gratitude, and shame proneness). 42

CHAPTER I - INTRODUCTION

Attachment Quality Across Contexts: The Mediating Role of Cognitive-Affective Traits

Parenting is noted as one of the most impactful factors on a child's physical and psychological development. Parental traits, behaviors, and attitudes impact developmental and psychological outcomes in children and young adults (Wilson & Durbin, 2012; Hoffman, Crnic, & Baker, 2006). One such factor, attachment, is defined as the relational framework for personal values, moral cognitions, emotional processing, and judgements of interactions with others (Koleva, Selterman, Iyer, Ditto, & Graham, 2013; Cassidy, 1994; Chris Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006; Shaver, Mikulincer, Lavy, & Cassidy, 2009). Attachment between parents and their children and has been shown to be particularly important in terms of its effect on child emotional development, including positive affect, and child relational factors such as emotional understanding of others (Liable & Thompson, 2003; Sroufe, Carlson, Levy, & Egeland, 2003). Parent-child attachment quality can then persist to impact how adults then attach to their romantic figures, friends, and then subsequently when they become parents themselves (Rholes, Simpson, & Friedman, 2006; Green, Furrer, & McAllister, 2007). The mechanisms responsible for bridging adult attachment to subsequent parent-child attachment are not well explored. Emotional tendencies related to the appraisal of self and others such as forgiveness, gratitude, guilt and shame proneness may explain the persistent effects of attachment quality across attachment figures (Merrill & Afifi, 2015; Mikulincer, Shaver, & Slave, 2006; Wei, Shaffer, Young, & Zakalik, 2005). These cognitive- affective variables have each been found to impact qualities of adult

attachment and parenting behaviors such as bonding, responsivity, sensitivity, and discipline strategies, but have not been examined together in a sample of parents (Burnette, Taylor, Worthington, Forsyth, 2006; Mikulincer, Shaver, & Slave, 2006; Lopez et al., 1997; Mintz, Etengoff, & Gryzman, 2017). Given the likely ways these constructs influence each other, understanding the connections among these variables in a multivariate model may assist researchers in better understanding why attachment quality has the potential to persist across contexts and may aid clinicians in improving parent-child attachment via interventions focused on addressing or bolstering these affective and emotional personal constructs. Therefore, the purpose of the study is to examine the ways in which trait forgiveness, gratitude, shame proneness, and guilt proneness mediate the relationship between adult attachment and parent-child attachment quality. Further, because gender has been shown to influence the predictive models of both adult attachment and parent-child attachment quality (Barry, Seager, & Brown, 2015; Schoppe-Sullivan, et al., 2006), we will examine the impact of gender in these models.

Attachment.

Attachment theory was originally used to conceptualize the ways parents influence emotional functioning in children (Benoit, 2004; Liable & Thompson, 1998; Vivona, 2000; Oldfield, Humphrey, & Hebron, 2015). Bowlby and Ainsworth describe attachment as the process by which infants explore their environment and surroundings and return to the parents for warmth, protection, and love (Ainsworth et al, 1978; Bowlby, 1969). This dynamic relationship, formed by both child comfort-seeking behaviors and parental responses, impacts future interpersonal interactions, expectations, and perceptions by creating an internal working model of self and others. This internal

model of learned perception forms the schema of lovability of self and how much can be expected and trusted of others (Bretherton & Munholland, 1999). Attachment has more frequently been examined in the context of mothers to their infants; examining the ways fathers attach to their children is understudied (Weinfield, Sroufe, Egeland, & Carlson, 2008). As research has begun to examine the role of fathers in the child attachment relationship, findings have suggested that father-child attachment is equally important in child development (Dumont & Paquette, 2013; Brown, Mangelsdorf, & Neff, 2012). Factors such as father's sensitivity and responsiveness are influential to father-child attachment quality and subsequent child emotional and relational outcomes (Brown, Mangelsdorf, Neff, 2012). Consequently, both attachment figures impact feelings of security (Brown, Mangelsdorf, Neff, 2012).

Parental attachment is commonly conceptualized on a continuum from secure to insecure. Secure parental attachment is defined by a perception that relationships involve trust and care (Bowlby, 1969). Parents that demonstrate trust and care allow their children to explore their world and encounter novel stimuli while also providing a safe base to return to for comfort. This parental responsiveness is characterized by parents providing both physical and emotional comfort (Bowlby, 1988; Crockenberg, 1981). A parent represents a secure base which allows for exploration and is associated with more child empathy, confidence, and resilience (Malekpour, 2007). By contrast, insecure parental attachment (anxious-ambivalent or avoidant) involves inconsistent parental responding, or rejection. Insecure parent-child attachment is associated with low distress, less social skills, and difficulty communicating with others (Hong & Park, 2012). Insecure parental attachment is also associated with higher incidents of psychopathology

in children including anxiety and depression (Yoo, et al., 2006). Research has also suggested mothers and fathers encourage different stimuli-exploring behaviors. Findings suggest that mothers and fathers activate different mechanisms such that fathers encourage more risk-taking, whereas mothers provide more comfort and calming support (Paquette, 2004).

The stability of early parental attachment quality to plutonic and romantic relationships in adulthood has also been explored. It has been suggested that the parent-child attachment relationship remains generally stable from infancy to adulthood (Mercer, 2006; Mattanah, Lopez, & Govern, 2011). As children age, parent-child attachment relationships evolve with a child's independence and developmental stage (Moretti & Peled, 2004). Just as is true in childhood, parental attachment quality is associated with adolescent social skills, relational competence, and emotional adjustment (Engels, Dekovic, & Meeus, 2002). It is theorized that the internal working model established from the parent-child relationship has the potential to evolve and impact the attachment quality into adulthood (Bowlby, 1969; Bretherton & Munholland, 1999).

Adult attachment.

Though originally theorized to describe the parent-child relationship, attachment theory has been further understood in terms of how the internal working model influences adult relationships with friends, colleagues, and romantic partners. Adult attachment has largely been associated with early attachment relationships such that parent-child attachment quality is thought to set the framework for how individuals attach in their adult relationships, including adult plutonic and romantic relationships (Pascuzzo, Cyr, & Moss, 2013; Roisman, Collins, Sroufe, & Egeland, 2005). In adulthood, adult attachment

is conceptualized on a continuum of responsive and supportive behaviors (Hazan, Campa, & Gur-Yaish, 2006). Bartholomew and Horowitz (1991) conceptualized adult attachment in terms of anxious and avoidant behaviors in a two-dimensional model. Anxious adult attachment involves worry or fear about the honest expression of love from others (Hazan & Shaver, 1987). Those experiencing anxious adult attachment desire closeness with others, but feel it is not reciprocated. Attachment characterized as anxious attachment style in adulthood tends to be associated with less self-esteem and feel less socially confident (Collins & Read, 1990). Those experiencing avoidant attachment in adulthood tend to have more difficulty trusting others, developing close relationships, and more negative self-evaluation related to personal ability to fulfill others' expectations (Hazan & Shaver, 1987). In a national sample of adults researchers found that unlike anxious adult attachment, avoidantly attached adults were more likely to experience problems with alcohol and drug dependency compared to more anxiously attached individuals (Mickelson, Kessler, & Shaver, 1997). Due to this effect of adult attachment on further adult functioning, how the internal working model predicts other relational experiences is important.

While the theory of adult attachment holds that adult attachment is largely influenced by parent-child attachment, these relationships do not always hold up to empirical inquiry. Some findings suggest a less robust relationship between parent-child attachment and later adult attachment relationships (Scharfe & Bartholomew, 1994; Spieker & Booth, 1988). In the parent-child dyad, studies have found parent-child attachment quality may only have a moderate correlation with adult attachment quality, citing the importance of the adult individual factors such as trauma experiences, hostility

and submissive interpersonal style, and relationship changes (Gallo, Smith, & Ruiz, 2003; Crowell, Fraley, & Shaver, 1999; Scharfe & Barholomew, 1994; Spieker & Booth, 1988).

Further, while there is theoretical support for the influence of adult attachment on parent-child attachment, the empirical findings here are also somewhat inconsistent. Some evidence suggests that as parents' internal working model in their romantic relationships can persist in their subsequently interact with their child (Rholes, Simpson, & Friedman, 2006; Green, Furrer, & McAllister, 2007). Additionally, the stability and inter-generational transmission of attachment also has been demonstrated across three generations of parents (Benoit & Parker, 1994). Wearden and colleagues (2008) sought to explain this stable effect of attachment as being due to the interaction between emotion, self-evaluation, and core beliefs that are persistent across contexts. The interaction of these personal and environmental factors may demonstrate the importance of personality traits that can explain the stability of attachment across contexts.

Traits and self-evaluative tendencies such as maternal anxiety and maternal tendency to express emotion have been found to have significant effect on their parent-child attachment quality (Adam, Gunnar, & Tanaka, 2004; Isabella & Belsky, 1988). Those displaying more neuroticism, introversion, and less likely to be open to new experiences are more likely to be anxious and avoidant in their attachment quality (Mickelson, Kessler, & Shaver, 1997). Those displaying more avoidant adult attachment quality were significantly less extroverted and individuals displaying more anxious adult attachment displayed significantly less self-esteem and more external locus of control (Mickelson, Kessler, & Shaver, 1997). Individual factors such as negative or positive

experiences through the lifespan, sensitivity to needs, and affection have been found to impact whether adult attachment continues across contexts and in different relationships (Isabella & Belsky, 1988; Mickelson, Kessler, & Shaver, 1997; Waters, Merrick, Treboux, Crowell, Albersheim, 2000). The influence of gender norms and socialization is also a factor influencing both parent-child attachment as well as adult-adult attachment.

Attachment quality can differ based on the gender of the individuals in the relationship for both parents and children, as well as adults to other adults. Female children tend to display more secure attachment to their mothers, whereas male children are more securely attached to their fathers (Diener, Isabella, Behunin, & Wong, 2007). This early influence on the internal working model of self and others is impacted by the appraisal of features of the parent (Fox, Kimmerly & Schafer, 1991). As mothers and fathers form an attachment representation of male and female attachment figures, it is thought these representations can persist when attachment in their adult relationships. Though some research has examined the mother-child and father-child attachment quality, there is substantial dearth in the literature examining father-child attachment stability across contexts. Regardless, adult-adult attachment also displays significant gender differences. In general, men tend to display more avoidant adult attachment quality whereas women tend to display more anxious attachment quality (Scharfe, 2016; Del Giudice, 2011). Researchers posit this may be due to the appraisal of relationships and the socialization of men to be less committed to relationships, whereas women are socialized to be more dependent in relationships (Scharfe, 2016). There is also some suggestion that mothers that display more avoidant adult-attachment may display less

secure attachment to their unborn fetus as well as experience more negative affect in their adult relationships (Mikulincer & Florian, 1999; Rholes, Simpson, Orina, 1999).

In summary, attachment quality has been shown to be related to personal factors of emotional expression and evaluative tendencies of self and others in the context of relationships between adults and relationships between parents and children. As individuals generally tend to experience emotions and evaluate themselves in relation to others, these cognitive and affective factors can help explain how attachment is stable across contexts and relationship types when individuals become parents.

Cognitive Affective Traits.

Emotions have long been conceptualized as serving relational and motivational purposes for individuals (Lazarus, 1991). An individual's general relational-motivational emotion expression sets the framework for personality, or trait, emotion (McCrae & Costa, 1987). Differential emotions theory posits that when emotions are experienced more frequently in response to environmental stimuli, these emotional experiences manifest into a trait or tendency to experience similar emotions when stimuli are encountered (Izard, 1977). Thus, emotional expression that is stable across contexts develops into a trait emotion (Abe & Izard, 2010). Factors impacting the tendency to express emotions include how one utilizes their judgement of self and others to interact with the world emotionally (Izard, 1992).

The appraisal of a situation as just or unjust and/or the cultural reinforcement of certain appraisal and emotional expression is often the precedence for differential emotional reactions and thus the tendency to emote consistently across contexts (Mikula, Scherer, & Athenstaedt, 1998; Scherer & Brosch, 2009). This interplay between

cognition and affect sets the stage for a variety of emotional tendencies that can be both adaptive and maladaptive in relationships (Izard, Libero, Putnam, & Haynes, 1993). Cognitive-affective traits such as trait forgiveness (Allenmand, Amberg, Zimprich, & Fincham, 2007; Enright, 1991), gratitude (Gordon, Impett, Kogan, Oveis, & Keltner, 2012), guilt proneness (Overall, Girme, Lemay, & Hammond, 2014) and shame proneness (Martins, Canavarro, & Moreira, 2016) are unique in their demonstration of the interaction between cognition and affect as it relates to self and others in a relationship (Mikula, Scherer, & Athenstaedt, 1998; Sheikh & Janoff-Bulman, 2009; Tangney, Stuewig, & Mashek, 2007). Shame and guilt proneness are emotional responses typically focused on the cognitive appraisal of the *self* as positive or negative (Tangney, Stuewig, & Mashek, 2007), whereas trait forgiveness and gratitude are cognitive-affective factors related to evaluation of the *other* and what can be attributed as the cause of favorable or unfavorable outcomes (McCullough, Emmons, Kilpatrick, & Larson, 2001; Worthington & Scherer, 2004). These emotional experiences impacted by cognitive appraisal are important parts of how relationships are maintained, specifically in the context of attachment quality.

These cognitive-affective factors are important in adult relationship functioning both with other adults, as well as parents and their children. For example, anxious/avoidant adult attachment is associated with shame and guilt (Koleva et al., 2013; Lopez, et al., 1997). Additionally, secure adult attachment quality has been associated with higher trait joy and inversely associated with fear and shame (Magai, Distel, & Liker, 1995). It is largely suggested that cognitive-affective traits are impacted by socialization with others, with parenting playing an important role (Rudy & Grusec,

2006). Assessing the cognitive and affective factors experienced in the context of others, specifically via the impact on attachment, can promote understanding the intergenerational nature of relationship functioning.

Trait forgiveness.

Forgiveness has been defined as a trait involving cognitive and emotional factors (Bassett, Bassett, Lloyd, & Johnson, 2006). Forgiveness has been generally defined as the letting go of the desire to seek revenge (McCullough, Pargament, & Thoresen, 2000). Theorists have defined forgiveness as consisting of a cognitive process, the re-appraisal and decision to let go of a transgression, as well as the emotional component, the absolution of negative affect toward the transgressor (Worthington, Witvliet, Pietrini, & Miller, 2007; Tangney, Fee, Reinsmith, Boone, & Lee, 1999). The emotional component of forgiveness has been described as a form of emotion-focused coping in reducing stress followed a transgression (Worthington & Scherer, 2004). Forgiveness as a trait emotion-focused coping experience has been operationalized as the general tendency or disposition to forgive across contexts and situations (McCullough, Emmons, & Tsang, 2002). Further forgiveness is associated with general traits such as empathy, compassion, and the ability to perspective take (Enright, 2001; Macaskill, Maltby, & Day, 2002; McCullough, Fincham, & Tsang, 2003), as well as general positive feelings, lower perceived stress, improved self-concept, and positive relationship qualities (McCullough & Witvliet, 2001; Van Tongeren, et. al., 2015; Berry & Worthington, 2001; Thompson et. al., 2005). These findings suggest early relational foundations of are essential in the development of forgiveness.

Forgiveness develops along with other important cognitive and affective milestones. Theorists such as Piaget and Kohlberg describe the development of forgiveness as coinciding with stages of cognitive and moral development. Piaget (1932) posits forgiveness can first be understood beginning in early childhood along with the cognitive ability to perspective take, comprehend social input, and the understanding of justice. Kohlberg (1976) describes that the concept of forgiveness is understood as one builds their understanding of justice and morality which Enright (1994) took further to describe forgiveness development as a process integrating the cognitive ability to understand the self, others, and the concept of reciprocity and justice (Mullet & Girard, 2000). These cognitive and affective factors then manifest into personality factors, such as agreeableness, also has been found to be associated with forgiveness (Brose, Rye, Lutz-Zois, & Ross, 2005; Sandage & Williamson, 2010). Similar to other emotion-focused traits, environmental factors such as modeling in the home and the practice of forgiving can influence how individuals further express forgiveness (Denham, Neal, & Bassett, 2004; Denham, Neal, Wilson, Pickering, & Boyatzis, 2005). Additionally, forgiveness has been found to have a bidirectional influence on the home environment and family such that forgiveness can develop by learning and modeling in the home and that families that display more forgiveness in the home have children that display more forgiving tendencies (Maio, Thomas, Fincham, & Carnelley, 2008). The general tendency to forgive can be influential in relationship functioning into adulthood.

Further, forgiveness has been associated with positive relationship functioning including lower levels of anxious and avoidant adult attachment (Merrill & Afifi, 2015; Reynolds, Searight, & Ratwik, 2014; Ammons, 2018). Additionally, anxious and

avoidant adult attachment is associated with antithesis characteristics to forgiveness, such as rumination (Lanciano, Curci, Kafetsios, Elia, & Zammuner, 2012). Research has found trait forgiveness to be related to parenting factors including maternal bonding, where maternal caring was significantly positively associated with forgiveness tendency (Passmore et al., 2009). In a sample of parents, forgiveness is predictive of parenting behaviors such as quality of co-parenting behaviors, parenting stress, and negative affect displayed in the parent-child dyad (Bonach & Sales, 2002; Duncan, Coatsworth, & Greenberg, 2009; Kiefer, et al., 2010). Further, trait forgiveness is associated with more secure parent-child attachment quality in a sample of young adults (Ammons, 2018; Lawler-Row, Hyatt-Edwards, Wuensch, & Karremans, 2010). For individuals displaying more secure attachment quality in their parent-child relationships and their adult attachment relationships, it is theorized that they are generally more likely to view a person as separate from their transgression, more likely to understand the perspective of that person, and maintain trust in spite of potential conflict (Mikulincer & Shaver, 2005; Lawler-Row, Hyatt-Edwards, Wuensch, & Karremans, 2010).

Trait forgiveness has also been shown to be the mediating mechanism when assessing facets of relationship functioning including self-concept and relationship satisfaction (Fincham, Paleari, & Regalia, 2002). Additionally, we see this differ between men and women. Miller, Worthington, and McDaniel (2008) meta-analysis identified that women are generally more forgiving than men. The authors suggest this is due to the differences in how men and women process forgiveness as well as gender-based norms and socialization that have men more drawn to a justice-based moral system versus women valuing virtues associated with higher warmth (Miller, Worthington, &

McDaniel, 2008; Konstam, Chernoff, & Deveney, 2001). With forgiveness playing an important role in both adult attachment and parent-child attachment quality, we expect this construct may serve to also mediate the relationship between adult attachment and parental attachment. Additionally, we will examine the mediating role of a similar cognitive-emotional trait, dispositional gratitude.

Trait gratitude.

Gratitude, or the intentional expression of appreciation, is also defined in terms of state and trait manifestations (Emmons & McCullough, 2004). The trait or disposition to be gracious across contexts and situations (McCullough, Emmons, Tsang, 2002) is an important adaptive trait associated with overall relationship quality, physical health, and altruistic behavior (Algoe & Zhaoyang, 2016; Lin, 2016; Emmons & Mishra, 2011). Gratitude, like forgiveness, is an emotional response involving cognitive appraisal of others (McCullough, Kilpatrick, Emmons, & Larson, 2001). Similar to other factors related to an individual's moral inclination, trait gratitude is postulated to be a cognitive and affective factor impacted by one's established moral principles as well as continuously shaping an individual's continued worldview and beliefs of self and others (McCullough, Kilpatrick, Emmons, & Larson, 2001). Gratitude researchers have theorized gratitude to be an attribution-dependent emotion that results from how an individual appraises the causes of favorable and unfavorable circumstances (Weiner, 1985; Wood, Maltby, Stewart, Linley, & Joseph, 2008) and is largely influenced by concern and care of another person (McCullough, Kilpatrick, Emmons, & Larson, 2001). Gratitude researchers have postulated a social cognitive theory of gratitude development

identifying attachment characteristics to be a key component of gratitude expression (Wilkinson & Dinh, 2014).

Gratitude development has been found to have some inheritability between parents and their children (Steger, Hicks, Kashdan, Krueger, & Bouchard, 2007). Family factors such as parental expression of gratitude, parental prosocial behavior, and improved parental relationship are associated with trait gratitude (Hoy, Suldo, & Mendez, 2013). Relationally, factors such as positive reciprocal communication and competence in social settings are also positively associated with trait gratitude specifically in parent-child and adult-adult relationships (Pastorelli et. al., 2016; Feldman, Bamberger, & Kanat-Maymon, 2013; Mikulincer, Shaver, & Slave, 2006). Studies have found gratitude expression across contexts to be associated with aspects of adult attachment quality. Adult attachment quality displaying less anxious and avoidant tendencies is associated with higher levels of trait gratitude (Ammons, 2018; Mikulincer, Shaver, & Slave, 2006; Wilkinson & Dinh, 2014). Gratitude has also begun to be explored as an appropriate therapeutic intervention for individuals in unhealthy relationships to protect against negative outcomes (Griffin, et al., 2016) and is associated with other positive relational traits such as trait forgiveness (DeShea, 2003; Li, Zhang, & Zhang, 2015).

It is also evident that gender differences in gratitude expression exist between men and women. Findings suggest women tend to display more trait gratitude than men, with differences in what gratitude was expressed for as well. Women tend to display more graciousness for relationships and within social relationships, whereas men are more gracious for material possessions (Gordon, Musher-Eizenman, Holub, & Dalrymple, 2004). This is thought to be due to differences in how women and men

appraise and perceive gratitude expression as beneficial such that women may view it has more advantageous in maintaining relationships (Kashdan, Mishra, Breen, & Froh, 2009). With the expression of gratitude as an emotional response to the concern and care of others, examining it as a mechanism to explain attachment consistency across contexts and how this may differ between men and women, seems appropriate. Conversely, the cognitive and affective components of shame and guilt proneness involving the care and concern of the self can also be important in understanding relationship functioning.

Guilt proneness.

Guilt proneness has often been used to describe an individual's tendency to experience guilt or negative evaluation of their specific behaviors or transgressions (Tangney, 1990). Guilt researchers such as Tangney (1990) define guilt as assessing a past behavior and deeming it inconsistent with their standards and values. Guilt is described as the experience of negative affect in response to one's behavior or inaction that results in a generally maintained sense of self-concept and self-esteem (Tangney, 1990; Tilghman-Osborn, Cole, & Felton, 2010; Lopez, et al., 1997). Guilt involves cognitive appraisal and is experienced in response to an evaluation of behavior in comparison to a social norm (Lutwak & Ferrari, 1996). Guilt is associated with a tendency to appraise the self as malleable and an internal locus of control following failure (Tracy & Robins, 2006). It is also positively associated with being self-forgiving and agreeableness (Carpenter, Tignor, Tsang, & Willet, 2016; Einstein & Lanning, 2008; Cohen, Panter, & Turan, 2012).

Guilt develops along with other important developmental milestones impacted by both brain maturation and environmental factors. Guilt has been found to develop along with the ability to self-regulate and the development of self-concept and conscience

(Bafunno & Camodeca, 2013; Kochanska, 1991). The cognitive ability to understand self in relation to others impacts the development of a set of beliefs that are deemed appropriate in regard to our behavior (Lewis, 2016). The cognitive ability to distinguish the self from others impacts how attribution of responsibility is understood and how it interacts with beliefs of acceptable behavior (McGraw, 1987). These sets of beliefs of acceptable behavior are impacted by early home environments and relationships (Akbag & Imamoglu, 2010; Kochanska, 1991). Guilt proneness in children is also impacted by parenting factors such as perceived parental control, discipline style, and communication of love (Abell & Gecas, 1997; Rosenberg, 1998). The tendency to experience guilt is associated with relationship functioning as well.

Guilt an important cognitive-affective feature of relationships, specifically attachment quality between parents and their children and adults with other adults. Guilt is associated with attachment-based positive view self and negative view of others (Kochanska, 1991). The tendency to experience guilt is impacted by parent-child attachment quality such that secure attachment is significantly inversely related to self-conscious emotions such as maladaptive forms of guilt and shame (Muris, et al., 2013). Further, children displaying more avoidant attachment were less likely to experience guilt due to distanced emotionality from relationships thus less likely to experience negative emotions as a result of a transgression (Muris, et al., 2013; Mikulincer & Shaver, 2005). For adults, guilt is also linked to improved ability to perspective-take and prosocial relationship behaviors (Leith & Baumeister, 2008). Additionally, research has shown gender differences in the experience of guilt such that women and girls reporting experiencing higher levels of guilt compared to men (Walter & Burnaford, 2006;

Ferguson & Eyre, 2000). This has been found to be due to gender socialization, specifically affective experience and the development of self-concept that impacts socially acceptable emotional responses to behaviors (Ferguson & Crowley, 1997; Benetti-McQuoid & Bursik, 2005). Guilt as experienced in a sample of parents is associated with their evaluation of their parenting capabilities, especially for parents with children with psychopathology (McDonald, O'Brien, & Jackson, 2007; Miles & Demi, 1992). With attachment quality playing a key role in the development and expression of guilt examining its function across parent-child and adult-adult attachment is important. Shame proneness, a similar emotional experience following self-evaluation, is another influential cognitive-affective factor that could be promoting attachment stability.

Shame proneness.

Shame proneness, or the tendency to experience negative self-evaluation, also involves the evaluation of the self in comparison to others (Tangney, Stuewig, & Mashek, 2007). Shame proneness is the emotional tendency to negatively evaluate the self-concept and self-image rather than focusing on one's behavior (Brown, 2006; Tangney, 1990). Similar to guilt, shame is the emotional experience following the cognitive appraisal of the self. Shame differs from guilt in that shame is associated with the tendency to appraise self-worth as prone to change and lacking internal locus of control (Tracy & Robbins, 2006). Shame is typically conceptualized as a maladaptive trait associated with higher levels of psychopathology including depression, anxiety, and negative affect (Tangney, Wagner, & Gramzow, 1992; Harder, Cutler, & Rockart, 1992; Wilson, Drozdek, & Turkovic, 2006). Shame is also an emotional experience largely impacted by

cognitive and affective development in childhood and socialization of parents in the home.

Similar to guilt proneness, shame proneness is thought to develop along with the self-concept and in line with moral standards (Eisenberg, 2000). Parenting practices characterized as more hostile, displaying more anger, and the absence of discipline were associated with higher experiences of shame in children (Ferguson & Stegge, 1995; Claesson & Sohlberg, 2002). Parent-child attachment quality is also associated with shame proneness such that less secure parental attachment quality was predictive of higher levels of shame proneness (Eisenberg, 2000).

Shame has also been associated with adult attachment. Adult attachment quality characterized as more anxious and avoidant is associated with higher levels of shame proneness (Wei, Shaffer, Young, & Zakalik, 2005; Lopez, et al., 1997). Emotional enmeshment in interpersonal relationships is positively associated with shame proneness (Wells, Glickaug-Hughes, Jones, 2010). In a sample of parents, that were more likely to feel shame displayed more psychological control tendencies in their parenting practices (Mills, Freeman, Clara, Elgar, Walling, & Mak, 2007; Abell & Gecas, 1997), thus possibly implying some intergenerational transmission of the shame experience. There is also evidence suggesting parent's marital satisfaction can impact a child's shame experience and is posited as being due to children experiencing negative emotions and self-blame as a result of marital dysfunction (Zimet & Jacob, 2001; Parisette-Sparks, Bufferd, & Klein, 2015). Further, mothers and fathers differed in their impact on self-conscious emotional factors such that fathers' psychopathology (i.e., depression) and

parenting practices (i.e. permissive parenting) significantly predicted shame proneness (Parisette-Sparks, Buffer, & Klein, 2015).

Similar to guilt, gender differences in shame proneness have been identified, such that women displayed higher levels of shame compared to men (Benetti-McQuoid & Bursik, 2005; Ferguson & Crowley, 1997). This is posited as being due to gender schema theory such that regardless of gender, those that ascribed to more feminine traits were found to display more tendency to experience shame (Benetti-McQuoid & Burski, 2005). With the negative evaluation of self in relation to others, examining shame as a cognitive-affective factor explaining the stability of attachment quality across relationship types will further our understanding of attachment in adult relationships.

The Current Study

The current study examined the potential stable effects of attachment across relationship types and the role of trait gratitude, forgiveness, shame and guilt proneness. Previous evidence has demonstrated mixed results such that some findings support the stable effects of attachment quality across contexts (Rholes, Simpson, & Friedman, 2006; Green, Furrer, & McAllister, 2007) whereas others note the importance of individual differences (Davila & Cobb, 2003). Additionally, evidence has supported that adult attachment quality can predict parent-child attachment (Benoit & Parker, 1994). The current study hypothesized that adult attachment would predict parent-child attachment quality, replicating findings that establish the persistent nature of attachment behaviors (Ainsworth, 1993; McConnell & Moss, 2011).

It is not yet known the mechanisms responsible for the connection between adult attachment and parent-child attachment, but several cognitive-affective factors could be

considered. Self-focused cognitive and affective factors such as shame and guilt have been shown to impact adult attachment quality and may play a role in parent-child relationships (Wei, Shaffer, Young, & Zakalik, 2005; Eisenberg, 2000; Muris, et al., 2013). Similarly, other-focused variables such as forgiveness and gratitude have been shown to impact adult attachment quality and may play a role in parent-child attachment quality (Lawler-Row, Hyatt-Edwards, Wuensch, & Karremans, 2010; Wilkinson & Dinh, 2014). Therefore, the primary aim of the current study was to examine the degree to which shame, guilt, forgiveness, and gratitude mediated the relationship between adult attachment and parent-child attachment. It was posited that a parent's more positive adult attachment to others would be associated with a more secure parent-child attachment based in part by the influence of key cognitive and affective factors related to the evaluation of self and others (i.e. trait forgiveness, gratitude, shame proneness, and guilt proneness). With attachment quality characterized by an adaptive internal working model positively evaluating others, it was expected this may subsequently result in individuals being more gracious and forgiving, thus impacting their parent-child attachment quality. Further, with adult attachment quality characterized by an internal working model negatively evaluating self, it is expected this would subsequently result in individuals being more prone to experience guilt and shame thus impacting their parent-child attachment quality.

Further, both adult attachment and parent-child attachment seem to be influenced in some way by gender socialization. Men tend to display more avoidant adult attachment, whereas women tend to display more anxious adult attachment (Scharfe, 2016; Del Giudice, 2011). Additionally, gender differences have been found in relation to

the experiences of cognitive-affective factors such as forgiveness, gratitude, shame and guilt (Barry, Seager, Brown, 2015; Brown, Magnelsdorf, Neff, 2012; Walter & Burnaford, 2006; Benetti-McQuoid & Bursik, 2005). Therefore, a second aim of this study was to examine the degree to which the mediational model varies by gender.

Research Questions and Hypotheses.

Question 1: To what degree is the relationship between adult attachment and parental attachment mediated by cognitive-affective traits (i.e. trait gratitude, forgiveness, guilt and shame proneness).

Hypothesis 1a: The significant relationships between dimensions of adult attachment (i.e. avoidance and anxiety) and dimensions of parental attachment (i.e. trust and insecurity) will be mediated by adaptive cognitive-affective traits (trait gratitude and trait forgiveness).

Hypothesis 1b: The significant inverse relationships between dimensions of adult attachment (i.e. avoidance and anxiety) and dimensions of parental attachment (i.e. trust and insecurity) will be mediated by guilt proneness.

Hypothesis 1c: The significant inverse relationships between dimensions of adult attachment (i.e. avoidance and anxiety) and dimensions of parental attachment (i.e. trust and insecurity) will be mediated by shame proneness.

Question 2: To what degree is the mediating relationship between adult attachment, cognitive-affective traits, and parental attachment varied between mothers and fathers?

Hypothesis 2: The mediating effects of cognitive-affective traits between adult attachment and parental attachment will vary between mothers and fathers.

CHAPTER II - METHODS

Participants and Procedures

This study was approved by the University of Southern Mississippi Institutional Review Board (Appendix A). Participants were recruited via Amazon's Mturk, an online, worldwide data collection service and were tracked via an HTML script from <http://uniqueturker.myleott.com/> to ensure duplicate survey responses did not occur through placing limits on the number of responses each Mturk participant could provide to the survey. Mturk has been supported as being an appropriate method of data collection to improve generalizability of results by collecting from a national sample of mothers and fathers. Mturk has also been previously used as an appropriate method of data collection when studying family factors such as parenting (Sclieder & Weisz, 2015; Brassell et al., 2016). Participants completed screener questions to determine eligibility for participation. Participants indicated that they were parents of at least one child between the age of 6 to 18 years old and a resident of the United States. Participants that passed initial screeners were directed to an informed consent document that included study information including compensation amounts and compensation stipulations (Appendix B). After providing consent, participants were directed to complete demographic information and then were also directed to complete demographic information based on one of their children that was between the ages of 6 and 18 years old. Following completion of the demographic form, participants completed the measure assessing parental attachment based on the child previously chosen, followed by the remaining study measures. Completion of the study took approximately 20-30 minutes. Quality assurance checks included two items, which asked participants to answer in a

particular manner. Participants who incorrectly answered both validity items were removed from the sample and final analyses ($n=28$). Data were collected from a total of 1,407 individuals via Amazon's Mturk, an online, worldwide data collection service. Data from participants was only included in the final analysis if they identified as a parent or guardian that were present and actively parenting for more than 50% of their child's life and upbringing and had a child between the ages of 6 to 18 years old. Of this total, 983 either failed the validity check, completed less than 75% of the survey, did not have a child within the designated age range, or were duplicate cases thus were removed from the final analysis.

The final sample consisted of 424 parents, specifically 55.4% identified as mothers and 44.6% identified as fathers of children between the ages of 6 to 18 years old, with an average parent age of 36.48 years ($SD=8.73$). The sample included mostly parents identifying as White (76.2%) and non-Hispanic (87.0%). The majority of the parents identified as being married or in a domestic partnership (76.5%), had their highest level of education as a Bachelor's degree (40.3%), and work full-time (75.4%). The majority of the participants identified their religious affiliation as Christian (68.3%). Parents reported an average of 1.88 children. The sample consisted of 24.5% of participants that have ever been diagnosed with a chronic health problem, with 76.7% of those individuals currently being treated. The sample consisted of 25.1% ever being diagnosed with a mental health problem, with 56.8% of those individuals currently being treated for a mental health problem. Parent demographic data are provided in Table 1.

Table 1 *Parent Demographic Characteristic of the Sample*

Characteristic (Range)	<i>N</i>	%
Parent Gender		
Female	223	52.8
Male	198	46.9
Other	1	0.2
Not reported	2	0.5
Parent Race		
Black/African-American	41	9.7
Asian-American	40	9.4
White/Caucasian	323	76.2
Native American	14	3.3
Other	4	0.9
Not reported	2	0.5
Parent Ethnicity		
Hispanic	51	12.0
Non-Hispanic	369	87.0
Not reported	4	0.9
Parent Marital Status		
Single, never married	54	12.8
Married or domestic partnership	323	76.5
Widowed	2	0.5
Divorced	32	7.6
Separated	11	2.6
Not reported	2	0.5
Parent Highest Level of Education		
Some high school education	1	0.2
High school degree/GRE	29	6.8
Some college, no degree	73	17.2
Associate's degree	56	13.2
Bachelor's degree	171	40.3
Some graduate education	11	2.6
Master's degree	76	17.9
Ph.D	7	1.7
Parent Employment Status		
Part-time (<40 hours/week)	93	22.2
Full-time (40 hours/week)	315	75.4
Retired	2	0.5
Disabled or unable to work	8	1.9

Table 1 (continued)

Parent Income Bracket		
\$0-24,999	36	8.6
\$25,000-49,999	110	26.1
\$50,000-74,999	107	25.4
\$75,000-99,999	77	18.3
\$100,000-124,999	34	8.1
\$125,000-149,999	27	6.4
\$150,000+	30	7.1
Parent Living Situation		
House, alone or with children	315	74.3
Apartment, alone or with children	89	20.9
With relatives, alone or with children	15	3.5
Group home/shelter, alone or with children	3	0.7
Other	1	0.2
Not reported	1	0.2
Parents' religious affiliation		
Christian	289	68.3
Atheism/Agnosticism	48	11.3
Hinduism	8	1.9
Judaism	9	2.1
Islam	7	1.7
None	47	11.7
Other	8	1.9
Parents' religious involvement		
None	102	24.2
Minimal	139	32.9
Involved 1-2 days per week	107	25.4
Involved 3-4 days per week	29	6.8
Involved 5-6 days per week	17	4.0
Involved every day, 7 days per week	28	6.6
Missing	2	0.5
<hr/>		
Characteristic (Range)	<i>M</i>	<i>SD</i>
<hr/>		
Parent age	36.84	8.73
Number of Children	1.88	1.08
Importance of Spirituality/Religion (1-10)	5.59	3.52
<hr/>		

Table 1 (*continued*)

Parent Physical and Mental Health History	Percentage with History	Percentage receiving Current treatment
Chronic Health Problem	24.5	76.7
Learning Disability	10.2	31.0
Mental Health Problem	25.1	56.8
Substance Use Problem	9.8	43.9
Behavioral Problem	11.1	55.3
Legal Problem	12.3	11.8

The parents were asked to identify one of their children that is between the ages of 6 to 18 years old and complete demographic questions based on that child. The average reported child's age was 9.93 years ($SD=3.75$). The sample consisted of 55.8% female children, predominantly White (73.2%), and non-Hispanic (85.5%). Parents reported that 10.1% of the children have been diagnosed with a chronic health problem, 10.0% diagnosed with a learning disability, and 8.6% diagnosed with a mental health problem, 11.4% have a history of behavioral problems. Child demographic data are provided in Table 2.

Table 2 *Demographic Characteristics of the Sample – Child*

Characteristic (Range)	<i>M</i>	<i>SD</i>
Child age	9.93	3.75
	<i>N</i>	%
Child Gender		
Female	236	55.8
Male	186	44.0
Other	1	0.2
Not reported	1	0.2
Child Race		
Black/African-American	43	10.2
Asian-American	44	10.4
White/Caucasian	309	73.2

Table 2 (*continued*)

Native American	12	2.8
Native Hawaiian/Pacific Islander	1	0.2
Other	13	3.1
Not reported	2	0.5
Child Ethnicity		
Hispanic	61	14.5
Non-Hispanic	361	85.5
Not reported	2	0.5
Child Physical and Mental Health History	Percentage with History	Percentage receiving Current treatment
Chronic Health Problem	10.1	67.4
Learning Disability	10.0	65.9
Mental Health Problem	8.6	74.3
Substance Use Problem	2.9	41.7
Behavioral Problem	11.4	52.3
Legal Problem	2.1	11.8

Demographics.

Participants provided information on a number of demographic variables including their age, race, gender identification, marital status, education completed, employment status, and household income. Participants provided information on their basic mental and physical health history, religious affiliation, amount of importance of the spirituality or religion, and degree of involvement in religious or spiritual practices. Participants were also asked to report on the number of children they have and their children's ages. Parents were then asked to choose one of their children between the ages of 6-18 years old that they would provide additional demographic information on including child gender and ethnicity, brief child physical health history, brief child mental health history, child legal history, and child history of behavioral problems. See Appendix C.

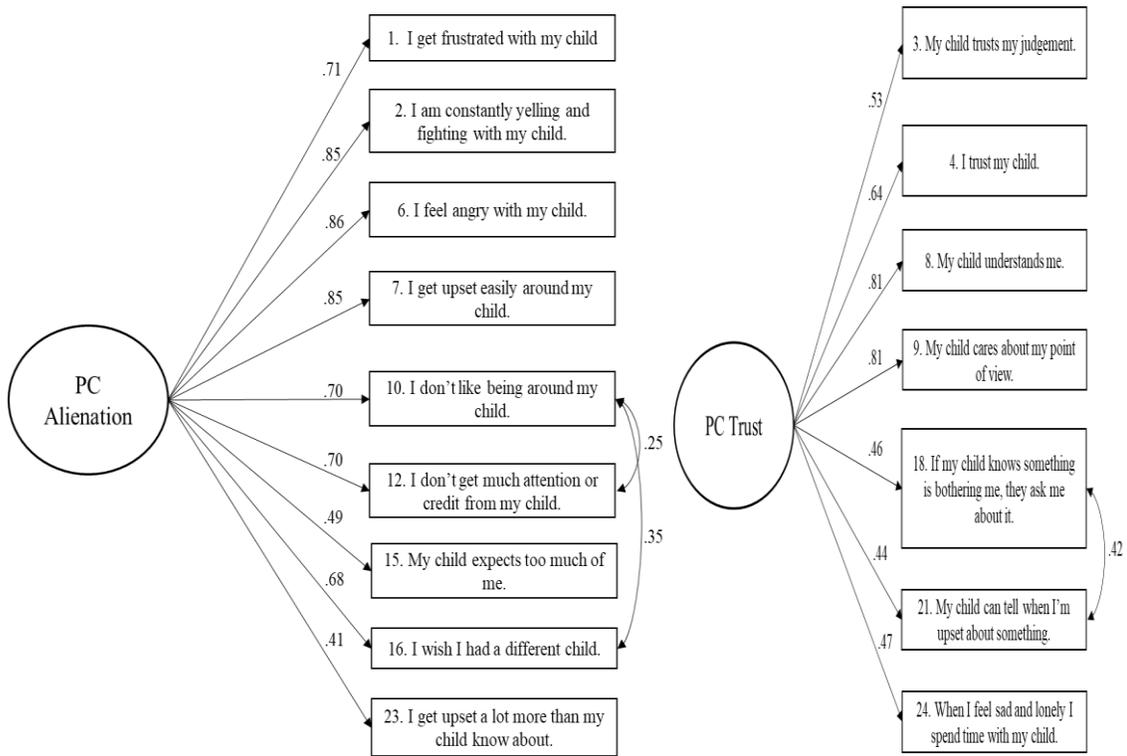
Revised Inventory of Parent and Peer Attachment.

Parental attachment to their children was assessed using the Revised Inventory of Parent and Peer Attachment (R-IPA; Johnson, Ketring, & Abshire, 2003), a 30-item measure assessing parent's perception of their attachment relationship with their children. Items were assessed on a 5-point Likert scale (1=*Almost Never or Never True* and 5=*Almost Always or Always True*) with higher scores indicating more of the subsequent construct (i.e. trust and alienation). Due to poor factor loading of items in the original study, an exploratory factor analysis and subsequent confirmatory factor analysis was completed to assess item loading for the current study sample (Johnson, Ketring, & Abshire, 2003). Results of the analysis indicated two dimensions of attachment characteristics (i.e. Trust and Alienation) with higher scores indicating more trust or more alienation. Items included in the Trust dimension included "I trust my child," and "My child trusts my judgement." Items included in the Alienation dimension include "I don't like being around my child" and "I am constantly yelling and fighting with my child."

Due to a lack of availability of scoring information for the R-IPA and inconsistent factor loading in the original scale, an Exploratory Factor Analysis was conducted to determine the best item fit for the current sample. Based on Field's recommendation, item loading in the original validation article for the R-IPA was assessed and were removed if they originally loaded on to factors at $<.30$ in original scale development (Field, 2009). Further, an exploratory factor analysis was conducted revealing a 2-factor solution that explained 45.7% of the variance. Items that loaded on two factors were removed from the factor structure. Following this analysis, Mplus 7.11 (Muthen & Muthen, 2012) was used to conduct a confirmatory factor analysis with the results of the

EFA. The model fit statistics were initially poor including root mean-square error of approximation, comparative fit index, and Tucker Lewis Index (RMSEA = .091; CFI = .861; TLI = .841) based on desired RMSEA values to be $<.08$ and desired TLI and CFI to be $>.90$ (Tucker & Lewis, 1973; Browne & Cudeck, 1993). Modification indices were referenced to improve model fit statistics which resulted in items being removed that double loaded on the factors and correlating error terms of appropriate items, yielding a final 16 items compared to the original 30 item measure. Model fit statistics for final model were appropriate such that ($\chi^2(100) = 317.602, p <.01$) and root mean-square error of approximation (RMSEA = .072; 90% Confidence Interval .063 - .081), comparative fit index (CFI = .930), and Tucker Lewis Index (TLI = .916) indicating good model fit. Somewhat similar to the original article, these items yielded a dimension of parent-child attachment generally related to parent-child trust (i.e. PC Trust) and a dimension related to insecure parent-child attachment (i.e. PC Alienation). The two-factor model depicted in Figure 1 was used in the mediation analyses for parental attachment. Past research has reported acceptable internal consistency ranging from $\alpha = 0.91$ to $\alpha = 0.72$ in a sample of adult mothers and fathers (Johnson et al., 2003). In the study sample, reliability was appropriate with the $\alpha = 0.89$ for the alienation dimension and $\alpha = 0.80$ for the trust dimension.

Figure 1. Standardized factor loading of items on dimensions of parent-child attachment quality (PC Alienation and PC Trust).



Note. All paths listed above indicate $p < .001$. Dimension of PC Alienation and PC Trust correlated.

Gratitude Questionnaire-6.

Dispositional gratitude was assessed using the Gratitude Questionnaire-6 (GQ-6; McCullough, Emmons, Tsang, 2002) to assess a person's general tendency to be gracious, or exhibit trait gratitude. Items are assessed using a 7-point Likert scale (1=*strongly disagree* and 7=*strongly agree*) with higher scores indicating higher levels of dispositional gratitude. Participants were asked questions such as "I am grateful to a wide variety of people." A total score was obtained to measure overall dispositional gratitude. Scores ranged between 6 and 42. Past research has reported acceptable internal consistency in samples of adults with coefficient alphas ranging from .82 to .87 (McCullough et al., 2002). Prior literature suggested test-retest reliability was appropriate

after six weeks with an ICC score of 0.85 (Jans-Beken, Lataster, Leontjevas, & Jacobs, 2015). Internal consistency for the GQ-6 in the current sample was appropriate ($\alpha = .81$).

Trait Forgiveness Scale.

Dispositional forgiveness was assessed using the Trait Forgiveness Scale (TFS; Berry, et al., 2005) to gather emerging adult self-report of being forgiving across different situations and times. Items were assessed using a 5-point Likert scale (1=*Strongly Disagree* and 5=*Strongly Agree*) with higher scores indicating more disposition to forgive. Participants were asked questions such as “I can usually forgive and forget an insult.” A total score will be obtained to measure overall Trait forgiveness. Past research has reported acceptable internal consistency in a sample of college aged adults with a coefficient alpha of .80. Prior literature demonstrated test-retest reliability was also adequate after 8-weeks with a correlation score of .78 (Berry et al., 2005). Internal consistency for the TFS in the current study was appropriate ($\alpha = .81$).

Guilt and Shame Proneness Scale.

Guilt and shame were assessed using the Guilt and Shame Proneness Scale (GASP; Cohen, Wolf, Panter, & Insko, 2011), a 16-item measure assessing self-reported tendency to experience negative emotional experiences. Items depict situations individuals may encounter in daily life and were assessed using a 7-point Likert scale (1=*Very Unlikely* and 7=*Very Likely*) with higher scores indicating more tendency to experience feelings of guilt and shame. Items loaded onto two dimensions of guilt proneness: Negative-Behavior Evaluation (NBE) and Repair Action Tendency (RAT) and two dimensions of shame proneness: Negative-Self Evaluation (NSE) and Withdraw Action Tendency (WAT). An item included in the Guilt Proneness subscale includes

“After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn’t notice. What is the likelihood that you would feel uncomfortable about keeping the money?” An item included in the Shame Proneness subscale includes “You give a bad presentation at work. Afterwards your boss tells your coworkers it was your fault that your company lost the contract. What is the likelihood you would feel incompetent?” Previous research has demonstrated appropriate internal consistency deemed acceptable for scenario-based measures with alphas greater than 0.60 (Schmitt, 1996; John & Benet-Martinez, 2000; Cohen, Wolf, Panter, & Insko, 2011). Internal consistency for the NBE ($\alpha = .76$), RAT ($\alpha = .72$), WAT ($\alpha = .70$), and NSE ($\alpha = .79$) was appropriate in the current study sample.

Experiences in Close Relationships – Relationships Structures Questionnaire.

Adult attachment was assessed using the Relationship Structures questionnaire (ECR-RS; Fraley, Hudson, Heffernan, & Segal, 2015) to gather self-reports of characteristics and feelings experienced in their close relationships. Items were assessed using a 7-point Likert scale (1=*Disagree strongly* and 7=*Agree strongly*) with higher scores indicating higher levels of anxious and avoidant behaviors. Items loaded onto two dimensions of adult attachment characterized as anxiety and avoidant behaviors. Items included in the anxiety dimension included “I’m afraid that other people may abandon me” and “I often worry that other people do not really care for me” Items included in the avoidant dimension include “I don’t feel comfortable opening up to others” and “I prefer not to show others how I feel deep down.” Scores for each dimension were obtained to provide a score of anxious and avoidant attachment for each participant. Past research has reported acceptable internal consistency in a sample of adults with anxiety and avoidant

alphas of .81 to .92 respectively (Fraley, Hudson, Heffernan, and Segal, 2015). Test-retest reliability was adequate at 30 days ranging from .65 to .80 as well as appropriate convergent and discriminant validity with features of relationship such as satisfaction and commitment (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). Internal consistency for the current study was appropriate for the Avoid ($\alpha = .82$) and the Anxious scale ($\alpha = .91$).

Data Analysis.

Participants who met study inclusion criteria, completed at least 75% of the measures, and passed both quality assurance checks were included in the analyses. The data were screened for missing items or invalid responses. Diagnostics and assessment of normality of variables was conducted to evaluate missing data points, outliers, and distribution of the data. Little's MCAR test was conducted verify that missing values were missing at random and were subsequently evaluated to see if missing data had an influential impact on key study variables (Little, 1988). Missing data points were replaced using estimated means imputation (Beale & Little, 1975). Diagnostics were conducted to identify influential points or outliers including studentized residual values, leverage, and standardized DFFITS. Analyses were run again to determine the extent that which these points were influential. Means, standard deviations, and bivariate correlations were conducted to assess basic information and relationships between variables of interest.

Assumptions of regression were first evaluated prior to interpreting results including homoscedasticity, normality of residuals and linearity. Homoscedasticity was assessed by evaluating histograms of the predicted value and standardized residual of the dependent variable. Continuity across predicted values between -1 and 0 was assessed.

Histogram plots of residuals was also evaluated to assess if normality is assumed. Skewness and kurtosis was assessed. Scores of the GQ-6, RAT, NSE, and NBE were significantly negatively skewed. A two-step transformation was conducted for these variables by calculating a percentile rank followed by applying an inverse-normal transformation to this step which resulted in a normal distribution of scores (Templeton, 2011). The two-step transformation process resolved skewness and kurtosis issues. The assumption of linearity was evaluated by verifying a curved relationship was not present in partial plots. Tolerance values was assessed to verify all values are greater than 0.2 to indicate that the assumption was met, and multicollinearity was not violated. Tolerance values were appropriate across all measures.

To assess mediating relationships, structural equation models (SEM) was performed using Mplus. The hypothesized models were assessed using χ^2 value, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Values of .90 or above for the CFI and TLI (Tucker & Lewis, 1973) and .08 or below for the RMSEA (Browne & Cudeck, 1993) were used to indicate that a model adequately fit the data. The indirect effects of the mediations were evaluated to determine whether the entire mediation was statistically significant. Further effects of each set of mediations was tested to determine which paths in the model were significant. Additionally, invariance testing by gender (i.e. mothers and fathers) was conducted to evaluate whether relationships are varied based on gender (Hypothesis 2). Two separate structural equation models were used to assess the effect of guilt proneness (Model 1) and shame proneness (Model 2) to eliminate concerns with multicollinearity of GASP subscales (Cohen, Wolf, Panter, & Insko, 2011). Using Mplus

7.11 (Muthen & Muthen, 2012), the mediation analyses was assessed with structural equation modeling (SEM). Mediations were determined as significant based on confidence intervals of 5,000 bootstrapping iterations of effects that did not include 0 (Preacher & Hayes, 2008).

CHAPTER III - RESULTS

Basic descriptive statistics (i.e. means, standard deviations, ranges) of all the measures was presented for the sample in Table 3. A summed total score of the two dimensions of the R-IPA was calculated based on item distribution from the measurement evaluation previously mentioned to assess intercorrelations.

Table 3 Means, Standard Deviations, and Correlations for all Study Variables

	1	2	3	4	5	6	7	8	9	10
1. PC ALIENATION	---	-.21**	.20**	.29**	-.08	.42**	-.26**	-.38**	.11*	.43**
2. PC TRUST		---	.19**	.30**	.11*	-.08	.15**	.32**	-.29**	-.06
3. GASP: NBE			---	.64**	.66*	-.01	.18**	.39**	-.05	-.08
4. GASP: RAT				---	.59*	.15**	.22**	.49**	-.15**	.17**
5. GASP: NSE					---	.04	.08	.37**	-.01	-.01
6. GASP: WAT						---	-.26**	-.28**	.04	.33**
7. TFS							---	.36**	-.33**	-.37
8. GQ-6								---	-.38**	-.45**
9. ECR-RS: AVOID									---	.43**
10. ECR-RS: ANXIOUS										---
<i>Mean</i>	3.72	2.17	5.17	5.36	5.19	3.57	32.82	32.01	3.49	3.92
<i>SD</i>	0.87	0.70	1.39	1.78	1.37	1.32	7.61	6.97	1.22	1.86

Note. PC ALIENATION= Parent-child Alienation; PC TRUST = Parent-child Trust; GASP: NBE = Negative Behavioral Evaluation; GASP: RAT = Reparative Action Tendency; GASP: NSE = Negative Self Evaluation; GASP: WAT = Withdraw Action Tendency; TFS = Trait Forgiveness; GQ-6 = Trait Gratitude; ECR-RS: AVOID= Avoidant Adult Attachment; ECR-RS: ANXIOUS = Anxious Adult Attachment.
 $p < .001 = ***$, $p < .01 = **$, $p < .05 = *$

Model 1 Results – Guilt Proneness.

When examining the mediating effects of trait gratitude, trait forgiveness, and guilt proneness in Model 1, model fit statistics were appropriate such that ($\chi^2(189) = 638.811, p < .001$) and root mean-square error of approximation (RMSEA = .075, 90% CI [.07-.08]), comparative fit index (CFI = .887), and Tucker Lewis Index (TLI = .862) indicating some elements of good model fit. When examining the effects of anxious and avoidant adult attachment on the trust and insecure attachment dimensions of parent-child attachment, results were somewhat consistent with the hypotheses.

In regard to the parent-child trust outcome (i.e. PC Trust) and avoidant adult attachment, results found the direct effect was significant such that avoidant adult attachment negatively predicted PC Trust ($c = -.35, p < .001$; Figure 2). After accounting for the mediating roles of trait gratitude (GQ-6), trait forgiveness (TFS), guilt proneness (NBE & RAT), the relationship weakened but was still significant ($c^l = -.28, p < .001$; Figure 2), indicating a partial mediation. Specifically, results found GQ-6 mediated this direct effect relationship ($\beta = -.05, 95\% \text{ CI } [-.09, -.02]$).

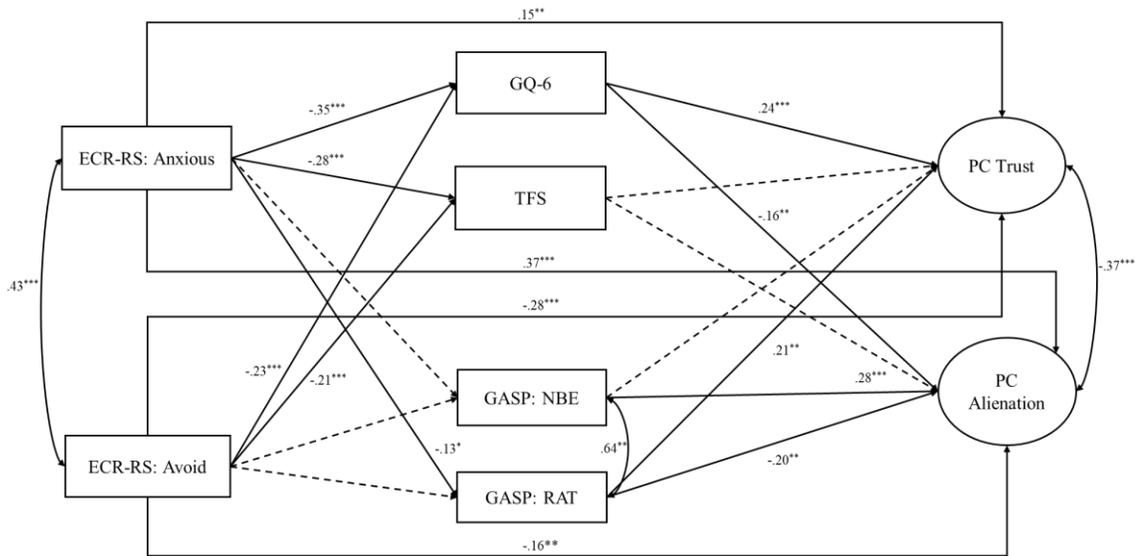
Similarly, anxious adult attachment had a direct effect on the PC trust outcome though only after accounting for the mediating roles of GQ-6, TFS, NBE, and RAT indicating an inconsistent mediation (MacKinnon, Fairchild, & Fritz, 2007). Results found anxious adult attachment significantly positively predicted PC Trust ($c = .04, p = .446$; Figure 2) after accounting for the mediators ($c^l = .18, p < .001$; Figure 2). Specifically, GQ-6 ($\beta = -.09, 95\% \text{ CI } [-.14, -.04]$) and RAT ($\beta = -.03, 95\% \text{ CI } [-.06, -.01]$) partially mediated the direct effect relationship between anxious adult attachment and PC Trust.

In regard to the second parent-child attachment outcome (PC Alienation), results found that avoidant adult attachment significantly negatively predicted PC alienation ($c = -.08$, $p = .118$; Figure 2) after accounting for the mediating roles of GQ-6, TFS, NBE, and RAT ($c' = -.16$, $p < .05$; Figure 2). This result suggested an inconsistent mediation (MacKinnon, Fairchild, & Fritz, 2007). Results indicated that avoidant adult attachment had a significant effect on PC alienation through the effect on GQ-6 ($\beta = .04$, 95% CI [.01, .07]). Further, anxious adult attachment had an effect on PC alienation ($c = .48$, $p < .001$; Figure 2) such that the effect weakened though remained significant ($c' = .37$, $p < .001$; Figure 2) after accounting for the mediating roles of GQ-6, TFS, NBE, and RAT. This suggested the presence of a partial mediation. GQ-6 ($\beta = .06$, 95% CI [.02, .10]) and RAT ($\beta = .03$, 95% CI [.004, .05]) partially mediated the effect between anxious adult attachment and PC alienation.

Contrary to what was hypothesized, TFS did not significantly mediate the relationship between anxious adult attachment and PC Trust ($\beta = -.003$, 95% CI [-.04, .03]), avoidant adult attachment and PC Trust ($\beta = -.003$, 95% CI [-.03, .02]), anxious adult attachment and PC alienation ($\beta = .03$, 95% CI [-.01, .05]), or avoidant adult attachment and PC alienation ($\beta = .02$, 95% CI [-.002, .05]). Though TFS did not function as a mediator, anxious adult attachment ($\beta = -.28$, $p < .001$) and avoidant adult attachment ($\beta = -.21$, $p < .001$) significantly inversely predicted TFS. Similarly, NBE did not significantly mediate the relationship between anxious adult attachment and PC Trust ($\beta = .001$, 95% CI [-.01, .01]), avoidant adult attachment and PC Trust ($\beta = .001$, 95% CI

[-.01, .01]), anxious adult attachment and PC alienation ($\beta = -.002$, 95% CI [.01, .01]), or avoidant adult attachment and PC alienation ($\beta = .001$, 95% CI [-.01, .01]).

Figure 2. Standardized regression coefficients for the relationship between adult attachment and parental attachment, controlling for cognitive-affective traits (trait forgiveness, trait gratitude, guilt proneness).



Note: ECR-RS: Anxious = Anxious adult attachment; ECR-RS: Avoid = Avoidant adult attachment; GQ-6 = Trait Gratitude; TFS = Trait Forgiveness; GASP: RAT = Guilt proneness: repair action tendency; GASP: NBE = Guilt proneness: negative behavioral evaluation; PC Trust = parent-child trust; PC Alienation = parent-child alienation. Solid lines = Significant paths within the mediation model. Dashed lines = Non-significant paths within the mediation model. Model included items loading on PC Trust and PC Alienation dimension that are not pictured. $p < .001 = ***$, $p < .01 = **$, $p < .05 = *$

Model 2 Results – Shame Proneness.

When examining the mediating effects of trait gratitude, trait forgiveness, and shame proneness in Model 2, model fit statistics were appropriate such that ($\chi^2(189) = 697.918$, $p < .001$) and root mean-square error of approximation (RMSEA = .080; 90% CI [.07-.09]), comparative fit index (CFI = .868), and Tucker Lewis Index (TLI = .839) indicating some elements of good model fit. When examining the effects of anxious and avoidant adult attachment on the trust and insecurity dimensions of parent-child attachment, results were somewhat consistent with hypotheses.

In regard to the parent-child trust outcome (i.e. PC Trust), and avoidant adult attachment, results found the direct effect was significant such that avoidant adult attachment negatively predicted PC Trust ($c = -.35, p < .001$; Figure 3). After accounting for the mediating roles of trait gratitude (GQ-6), trait forgiveness (TFS), shame proneness (NSE & WAT), the relationship weakened but was still significant ($c^1 = -.28, p < .001$; Figure 3), indicating a partial mediation. Similar to Model 1, GQ-6 mediated this direct effect relationship ($\beta = -.07, 95\% \text{ CI } [-.12, -.04]$).

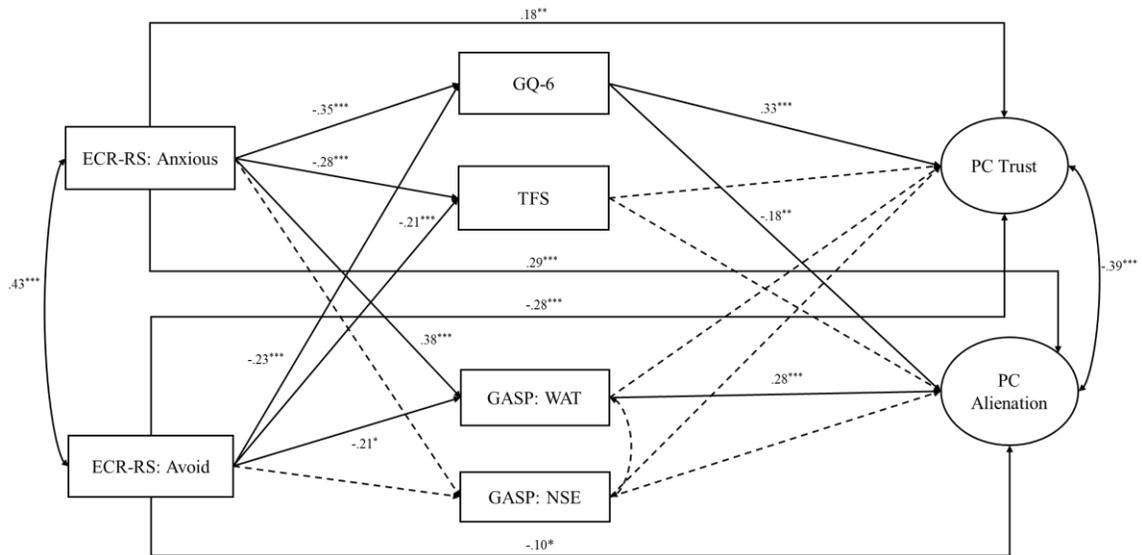
Similarly, anxious adult attachment had an effect on PC Trust though only after accounting for the mediating roles of GQ-6, TFS, NSE and WAT, indicating an inconsistent mediation (MacKinnon, Fairchild, & Fritz, 2007). Results found anxious adult attachment significantly positively predicted PC Trust ($c = .04, p = .446$; Figure 3) such that the effect became significant after accounting for the mediators ($c^1 = .18, p < .001$; Figure 1). Within this relationship, GQ-6 ($\beta = -.12, 95\% \text{ CI } [-.18, -.07]$) partially mediated the effect between anxious adult attachment and PC Trust.

In regard to the second parent-child attachment outcome (i.e. PC Alienation), results found that avoidant adult attachment significantly negatively predicted PC alienation ($c = -.08, p = .117$; Figure 3) only after accounting for the mediating roles of GQ-6, TFS, NSE and WAT, indicating an inconsistent mediation ($c^1 = -.10, p < .05$; Figure 3). Results indicated that avoidant adult attachment had a significant effect on PC alienation through the effect on GQ-6 ($\beta = .04, 95\% \text{ CI } [.02, .07]$). Similarly, results found the anxious dimension of adult attachment significantly positively predicted PC alienation ($c = .48, p < .001$; Figure 3). After accounting for the mediating roles of GQ-6, TFS, NSE and WAT, the relationship weakened but was still significant ($c^1 = .29, p$

<.001; Figure 3), indicating a partial mediation. Specifically, GQ-6 ($\beta = .07$, 95% CI [.03, .11]) and WAT ($\beta = .11$, 95% CI [.06, .15]) mediated the relationship between anxious adult attachment and PC alienation.

Contrary to what was hypothesized and similar to Model 1, TFS did not significantly mediate the relationship between anxious adult attachment and PC trust ($\beta = -.01$, 95% CI [-.04, .03]), avoidant adult attachment and PC trust ($\beta = -.01$, 95% CI [-.03, .02]), anxious adult attachment and PC alienation ($\beta = .02$, 95% CI [-.01, .05]), or avoidant adult attachment and PC alienation ($\beta = .01$, 95% CI [-.01, .04]). Though TFS did not mediate the relationships, anxious adult attachment ($\beta = -.28$, $p < .001$) and avoidant adult attachment ($\beta = -.21$, $p < .001$) significantly negatively predicted TFS. Similarly, NSE did not significantly mediate the relationship between anxious adult attachment and PC trust ($\beta = .001$, 95% CI [-.01, .01]), avoidant adult attachment and PC trust ($\beta = .001$, 95% CI [-.01, .01]), anxious adult attachment and PC alienation ($\beta = .001$, 95% CI [-.01, .01]), or avoidant adult attachment and PC alienation ($\beta = .001$, 95% CI [-.01, .01]). NSE did not significantly predict anxious adult attachment ($\beta = .001$, $p = .999$), avoidant adult attachment ($\beta = -.01$, $p = .93$), PC trust ($\beta = -.05$, $p = .379$), or PC alienation ($\beta = -.03$, $p = .384$).

Figure 3. Standardized regression coefficients for the relationship between adult attachment and parental attachment, controlling for cognitive-affective traits (trait forgiveness, trait gratitude, and shame proneness).



Note: ECR-RS: Anxious = Anxious adult attachment; ECR-RS: Avoid = Avoidant adult attachment; GQ-6 = Trait Gratitude; TFS = Trait Forgiveness; GASP: RAT = Guilt proneness: repair action tendency; GASP: NBE = Guilt proneness: negative behavioral evaluation; PC Trust = parent-child trust; PC Alienation = parent-child alienation. Solid lines = Significant paths within the mediation model. Dashed lines = Non-significant paths within the mediation model. Model included items loading on PC Trust and PC Alienation dimension that are not pictured. $p < .001 = ***$, $p < .01 = **$, $p < .05 = *$

Invariance Testing.

To evaluate whether the relationships differed between mothers and fathers, invariance testing was conducted in MPlus by comparing a fully constrained and freely estimated model for model 1 and model 2. In the first model including GQ-6, TFS, NBE, and RAT, when the model was freely estimated, one direct effect (i.e. ECR-RS: Avoid → PC Alienation) and five mediation paths presented as significant or inconsistent mediation for mothers or fathers, but not for the other (i.e. ECR-RS: Anxious → GQ-6 → PC Trust; ECR-RS: Avoid → GQ-6 → PC Trust; ECR-RS: Avoid → GASP: RAT → PC Trust; ECR-RS: Anxious → GQ-6 → PC Alienation; ECR-RS: Anxious → GQ-6 → PC Alienation). Thus, five additionally models were run to separately constraint the specific

paths of each of the abovementioned mediation relationships. When each of these specific models were constrained, no meaningful differences emerged. Meaningful differences were determined based on a change in CFI of .01 or more from the freely estimated model to the constrained model (Chen, 2007). Changes in CFI are presented in Table 4.

Table 4 *Model 1 (Guilt Proneness) Invariance Testing Results between Mothers and Fathers*

Model	CFI	ΔCFI Compared to Freely Estimated
Freely Estimated	.884	
Parent Status		
ECR-RS: Anxious → GQ-6 → PC Trust	.884	.000
ECR-RS: Avoid → GQ-6 → PC Trust	.883	.001
ECR-RS: Avoid → GASP: RAT → PC Trust	.883	.001
ECR-RS: Anxious → GQ-6 → PC Alienation	.884	.000
ECR-RS: Anxious → GQ-6 → PC Alienation	.885	.001
ECR-RS: Avoid → PC Alienation	.884	.000

Note: ECR-RS: Anxious = Anxious adult attachment; ECR-RS: Avoid = Avoidant adult attachment; PC Trust = parent-child trust; PC Alienation = parent-child alienation GASP: RAT = Guilt proneness; GQ-6 = Trait Gratitude;
No meaningful change in CFI of .01 or greater.

In the second model including TFS, GQ-6, NSE, and WAT, when the model was freely estimated, four mediation paths presented as significant or inconsistent mediation for mothers or fathers, but not for the other (i.e. ECR-RS: Anxious → GQ-6 → PC Trust; ECR-RS: Avoid → GQ-6 → PC Trust; ECR-RS: Anxious → GQ-6 → PC Alienation; ECR-RS: Anxious → GASP:WAT → PC Alienation). Thus, four additionally models were run to separately constraint the specific paths of each of the abovementioned

mediation relationships. When each of these specific models were constrained, no meaningful differences emerged. Meaningful differences were determined based on a change in CFI of .01 or more from the freely estimated model to the constrained model (Chen, 2007). Changes in CFI are presented in Table 5.

Table 5 *Model 2 (Shame Proneness) Invariance Testing Results between Mothers and Fathers*

Model	CFI	ΔCFI Compared to Freely Estimated
Freely Estimated	.856	
Parent Status		
ECR-RS: Anxious → GQ-6 → PC Trust	.857	.001
ECR-RS: Avoid → GQ-6 → PC Trust	.855	.001
ECR-RS: Anxious → GQ-6 → PC Alienation	.857	.001
ECR-RS: Anxious → GASP:WAT → PC Alienation	.857	.001

Note: ECR-RS: Anxious = Anxious adult attachment; ECR-RS: Avoid = Avoidant adult attachment; PC Trust = parent-child trust; PC Alienation = parent-child alienation GASP: WAT = Withdraw Action Tendency; GQ-6 = Trait Gratitude; No meaningful change in CFI of .01 or greater.

CHAPTER IV – DISCUSSION

The current study examined the stability of attachment across relationship types, specifically assessing a sample of parents in their adult relationships and their relationships with their children. A variety of personal factors have been shown to impact attachment quality (Wei, Shaffer, Young, & Zakalik, 2005; Eisenberg, 2000; Muris, et al., 2013), thus we sought to examine the potential mechanisms that facilitate or hinder the continuity of attachment across relationship types. Specifically, the current study investigated the mediating effects of cognitive affective traits involving the appraisal of self and others, including trait gratitude, forgiveness, and shame and guilt proneness as potential mechanisms (Lawler-Row, Hyatt-Edwards; Wilkinson & Dinh, 2014; Eisenberg, 2000; Muris, et al., 2013). Lastly, we sought to examine the potential differences in these mediating relationships between mothers and fathers due to prior research indicating differences in the key study variables (Scharfe, 2016; Del Giudice, 2011; Barry, Seager, Brown, 2015; Brown, Magnelsdorf, Neff, 2012; Walter & Burnaford, 2006; Benetti-McQuoid & Bursik, 2005).

Overall results provided a unique contribution to previous research describing adult attachment having a significant relationship with parent-child attachment quality (Benoit & Parker, 1994). Regarding the first independent variable, anxious adult attachment, results suggested anxious attachment was significantly related to parent-child trust and parent-child insecurity though not in the direction expected. Specifically, anxious adult attachment was positively associated with the dimension of parent-child trust in the sample. This finding could be due to the assessment of parent-child trust in the current study. Item-level review of the instrument indicates that the measure may

capture aspects of parental emotional dependence on children or parentification of children rather than positive attachment. This may further be explained by evidence that has suggested that parentification of children was associated with the development of an anxious interpersonal style (Byng-Hall, 2002; Cassidy & Berlin, 1994). However, as hypothesized, anxious adult attachment was related to the dimension of insecure parent-child attachment directionally as expected such that higher anxiety in adult attachment was significantly related to more insecure parent-child attachment quality.

Results also found the second independent variable, avoidant adult attachment, was significantly inversely related to parent-child trust and parent-child insecure attachment. These findings were consistent with prior research that found that individuals with a more avoidant interpersonal attachment style may be less likely to engage in healthy communication patterns with their children (Rholes, Simpson, & Blakely, 1995). Additionally, the items related to parent-child insecurity demonstrated a level of emotional confrontation that may be inconsistent with an avoidant interpersonal attachment style. Overall, the current study supported the potential for adult attachment quality to persist into parent and child relationships (Rholes, Simpson, & Friedman, 2006) and the mechanisms that explain this relationship also yielded interesting implications.

The current study examined trait gratitude, forgiveness, and shame and guilt proneness as potential mechanisms facilitating or interrupting the transmission of attachment quality. Previous research examined trait gratitude as significantly related to parenting factors as well as adult relationship factors (Hoy, Suldo, & Mendez, 2013; Mikulincer, Shaver, & Slave, 2006), making it a potential mechanism for the

transmission of attachment quality. Results of the current study were consistent with hypotheses such that trait gratitude mediated the relationship between anxious and avoidant adult attachment and both dimensions of parent-child attachment in the sample. With trait gratitude being a cognitive-affective factor involving the active appraisal of the self in relation to others, the current study supported it as a factor that adult attachment operates through to impact parent-child attachment (McCullough, Kilpatrick, Emmons, & Larson, 2001). Inconsistent with hypotheses, trait forgiveness did not have a significant mediating effect on the relationship between adult attachment and parent-child attachment in this sample (Reynolds, Searight, & Ratwik, 2014; Ammons, 2018). Though it did not mediate the effects, it was significant inversely related to both anxious and avoidant adult attachment as predicted. This suggests that it may play an important role in adult relationship functioning though is not as significant in parent-child attachment relationships.

When examining mediating roles of guilt proneness in the current study, results were inconsistent with hypotheses. When examining both aspects of guilt proneness (i.e. negative behavioral evaluation and reparative action tendency), reparative action tendency significantly mediated the relationship between anxious adult attachment and both dimensions of parent-child attachment quality. Results suggested that higher reported anxious adult attachment predicted less likelihood to engage in reparative action behaviors and subsequently less parent-child trust and more insecure parent-child attachment. These results may suggest the tendency to engage in reparative behaviors when experiencing guilt was particularly important on the impact of attachment across relationship types. However, the negative behavior evaluation did not function as a

mediator in the direct effect relationships. This may suggest that expected response behaviors may function uniquely as a mechanism rather than reflecting on the behaviors that elicited the guilty feelings (Collins, 1996).

When examining the aspects of shame proneness (i.e. withdraw action tendency and negative self-evaluation), the current study demonstrated that withdraw action tendency mediated the relationship between anxious and avoidant adult attachment and insecure parent-child attachment. These results suggested that as individuals demonstrated more anxious and avoidant attachment in their adult relationships, they were more prone to withdraw from a situation when experiencing shame which predicted more insecurity in their parent-child attachment. Contrary to hypotheses, results suggested that as individuals were more avoidant in their adult attachment relationships, they tended to withdraw less from others which predicted less insecurity in their parent-child attachment. Though directionally contrary to expectation, these results may suggest that individuals who demonstrate more avoidance in their adult relationships also tend not to evaluate their behaviors as withdrawing but rather an aspect of their attachment quality. These results also further support a unique component of evaluating expected response behaviors in explaining how these avoidant attachment impacts a variety of relationship contexts. Across both guilt and shame proneness, the subscales associated with appraising aspects of self and behaviors (i.e. negative behavioral evaluation and negative self-evaluation) that elicited the guilt and shame affect did not significantly mediate attachment relationships. This may be due to the necessity of insight and accurate reporting of one's internal processes and one's expectation of behaviors that is required to accurately report this trait. Further, additional cognitive and affective factors

such as sensitivity and appraisal of their personal history of attachment with their parents may play a more impactful role in their current parent-child attachment quality (Pederson, Gleason, Moran, & Bento, 1998).

Examining the potential differences between mothers and fathers in attachment transmission was also important. Contrary to previous research indicating gender differences in adult attachment quality, there were not meaningful differences in the manner that the cognitive-affective traits mediated the relationships between anxious and avoidant adult attachment and the dimensions of parent-child attachment (Scharfe, 2016; Barry, Seager, Brown, 2015; Brown, Magnelsdorf, Neff, 2012; Walter & Burnaford, 2006; Benetti-McQuoid & Bursik, 2005). This suggests that though differences in attachment quality and type may be present between mothers and fathers, the mechanisms for the potential continuation across dyads is not unique to one group.

Overall, these results suggest some important implications. Trait gratitude functioned as a significant mediator for the relationship between adult attachment and parent-child attachment. Items on this measure involved eliciting the appraisal of others and current feelings of gratitude that captures an active experience of gratitude. This may also explain why trait forgiveness did not function as a mediator. The trait forgiveness measure did not elicit appraisal of a recent transgression or situation but rather required a level of insight into one's general forgiving demeanor. This may suggest that the internal working model of lovability of self and expectations of others may be functioning similarly attachment and cognitive-traits. Regarding guilt and shame proneness, the subscales involving the appraisal of expected behavioral responses were the only subscales that mediated the attachment relationships. These results may suggest that

cognitive-affective traits with particular characteristics involving the active appraisal of a situation, current affective experience, or reflecting on expected response behavior may be of particular importance to explain the transmission of adult attachment to parent-child attachment quality. This may be due to these components functioning similarly to the internal working model or as a schema of appraisal of self and others. These schemas may function independent of attachment situations though allow for the bridging or transmission of attachment quality. This is consistent with the conceptualization of the internal working model as a dynamic and evolving concept (Bretherton, 1991) as well as concepts such as mentalization of infant states as being important attachment characteristics. Mentalization involving the appreciation of internal states that involves insightfulness and ability to reflect may explain why these cognitive-affective traits operated but the others did not (Bouchard et al., 2008).

These findings suggest a number of areas for clinical intervention. The results support the importance of providing parenting training as a means of interrupting and dampening the effects of less adaptive adult relationship patterns (Suchman, et al., 2008; Casey et al., 2017). Results also further support the importance of gratitude and reparative behaviors when experience guilt as cognitive-affective traits supporting positive parent-child relationship functioning that can be a focus of clinical intervention. Research has begun to explore gratitude interventions in the context of supporting well-being in parents (Timmons & Eikas, 2018). Further, results suggest that how people expect to behave when experiencing shame and guilt are important factors in attachment relationships. Shame and guilt intervention have begun to be a focus in psychotherapy in benefiting parents and children (Baldwin, 2014; Voskanova, 2015). Results suggested the

continued focus on the emotional experiences and appraisal of self is important in psychotherapy for mothers and fathers.

Some limitations to the current study are worth noting. The current study gathered cross-sectional data to evaluate the relationships between these constructs thus a causal relationship cannot be inferred from these results. Future research assessing longitudinal data may be considered more appropriate when conducting a mediation analysis (Winer, Cervone, Bryant, McKinny, Liu, & Nadorff, 2016). Additionally, the measure used to assess parent-child attachment may require further validation to ensure construct validity. When reviewing items, this measure may capture a construct such as parent-child communication patterns, parent emotional expression with children, and emotional dependence rather than parent-child attachment quality. Though validated by the original authors of the measure, further exploratory factor analysis with this measure may be appropriate (Johnson, Ketring, & Abshire, 2003). Additionally, data in the current study was collected via self-report from one source of the relationship dyad which relies on insight into relational functioning and can be impacted by social desirability (Holtgraves, 2004; Khaleque, 2003). Future research assessing parent-child and adult attachment with diverse methods including interview or behavioral observation may provide robustness to the findings. Lastly, the sample consisted of primarily White, non-Hispanic and married, individuals limits the generalizability of these findings across cultural groups. Future research examining a more diverse sample or assessing the attachment quality of non-married parents may be beneficial to the literature (Brown, Rodgers, Kapadia, 2008; Ghadampour, Khodarahimi, Rahmian, Bougar, & Nahaboo, 2020).

Additionally, future research may benefit from exploring the protecting or promotive role of trait gratitude, guilt proneness, and shame proneness in instances of less adaptive attachment quality via moderation analysis. Future directions could also assess how this attachment dynamic may change depending on the age of the child as the emotional needs of children change. Future directions evaluating mediating factors including sensitivity, collaborative problem solving, or responsiveness as being important in both adult attachment as well as parent-child attachment may also facilitate the understanding of attachment transmission (Reis & Patrick 1996). Research may also benefit from assessing the transgenerational transmission of attachment by evaluating the retrospective accounts that parents would report on previous attachment to their parental figures.

APPENDIX A – IRB Approval Letter

**Office of
Research Integrity**



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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-19-340

PROJECT TITLE: Attachment and Cognitive-Affective Traits

SCHOOL/PROGRAM: School of Psychology, Psychology

RESEARCHER(S): Christian Ammons, Bonnie Nicholson

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: October 15, 2019

Donald Sacco

**Donald Sacco, Ph.D.
Institutional Review Board Chairperson**

APPENDIX B – Informed Consent

PURPOSE: The present study seeks to better understand the relationship between parental attachment, adult relationship attachment, and personality traits among a sample of parents.

DESCRIPTION OF STUDY: The present study will consist of completing several brief questionnaires on the internet. Completion of the study should take approximately 20-30 minutes, and participants will be compensated \$0.25-\$0.50. Quality assurance checks will be used to make sure that participants are reading each question carefully and answering thoughtfully. Participants who do not pass these checks will NOT receive compensation for completing the study, therefore, please ensure you are attending to the items as close as possible.

BENEFITS: Participants are not expected to directly benefit from this research. However, the researchers hope this study will lead to a greater understanding of parenting, positive traits, and adult relationship functioning.

RISKS: There are no foreseeable risks, beyond those already present in routine daily life, involved in the present study. If a participant at any time feels distressed while answering any of the study's questions, they should contact the researcher immediately.

CONFIDENTIALITY: You will state your name on the informed consent form. All data collected from the study will be stored in aggregate form with no identifying information to ensure confidentiality. Data will be stored in a secure location for six (6) years, after which time it will be destroyed.

ALTERNATIVE PROCEDURES: Participation in this study is completely voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Southern Mississippi, the School of Psychology, or Amazon Mechanical Turk. If you decided to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

PARTICIPANT'S ASSURANCE: This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-5997.

Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to the primary researcher Chrissy Ammons (christian.ammons@usm.edu) or the research supervisor, Dr. Bonnie Nicholson (bonnie.nicholson@usm.edu).

If you experience distress as a result of your participation in this study, please notify the primary researcher Chrissy Ammons (christian.ammons@usm.edu) or the research supervisor, Dr. Bonnie Nicholson (bonnie.nicholson@usm.edu). A list of available agencies that may be able to provide services for you are provided below:

Community Counseling and Assessment Clinic (601) 266-4601

Student Counseling Services (601) 266-4829

Forrest General Psychology Service Incorporated (601) 268-3159

CONSENT TO PARTICIPATE IN RESEARCH

Consent is hereby given to participate in this research project. All procedures and/or investigations to be followed and their purpose, including any experimental procedures, were explained to me. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected.

The opportunity to ask questions regarding the research and procedures was given. Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. Unless described above and agreed to by the participant, all personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project.

Questions concerning the research, at any time during or after the project, should be directed to the Principal Investigator with the contact information provided above. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any question or concerns about rights as a research participant should be direct to the Chair of The Institutional Review Board, the University of Southern Mississippi, 118 College Dr. #5116, Hattiesburg, MS 39406-0001, 601-266-5997.

By agreeing to participate in this research,

1. I am confirming that I am 18 years of age or older
2. I understand I am being asked to complete a set of questionnaires, which will take no more than 25-30 minutes without distractions and for which I will receive \$0.25-\$0.50 as compensation.
3. If I fail to pass quality assurance checks, I will be exited from the study and will not receive compensation, and;
4. All information I provide will be used for research purposes and will be kept confidential

By clicking the box below, consent is hereby given to participate in this research project.

Check this box if you consent to this study, and then click "Continue." (Clicking "Continue" will not allow you to advance to the study, unless you have checked the box indicating your consent.)

If you do not wish to consent to this study, please close your browser window at this time.

APPENDIX C – Demographic Questionnaire

Demographic Questionnaire

Please answer the following questions about yourself and your attitudes.

What is your age? _____

What is your race?

- White
- Black/African-American
- Asian-American
- Native American
- Native Hawaiian/Pacific Islander
- Other _____

What is your ethnicity?

- Hispanic
- Non-Hispanic

What is your gender?

- Female
- Male
- Transgender
- Other _____

What is your marital status?

- Single, never married
- Married or domestic partnership
- Widowed
- Divorced
- Separated

What is the highest level of education you have completed?

- Some high school education
- High school degree or equivalent (e.g., GED)
- Some college but no degree
- Associate's degree
- Bachelor's degree
- Some graduate education
- Master's degree

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