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Attachment and Relationship Quality: A Longitudinal Cross-Lagged
Panel Model Examining the Association of Attachment
Styles and Relationship Quality in Married Couples

Meagan Cahoon Alder

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

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ABSTRACT

Attachment and Relationship Quality: A Longitudinal Cross-Lagged Panel Model Examining the Association of Attachment Styles and Relationship Quality in Married Couples

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Doctor of Philosophy

This is a longitudinal cross-lagged panel model examining the bi-directional association of attachment styles and relationship quality in a community sample of 355 married couples, with at least one child between 10-14 years of age at the beginning of the study and 17-21 years of age at the end of the study. An Actor-Partner Interdependence Model (APIM), was used to test for actor and partner effects, thereby accounting for the non-independent nature of the data. Two separate APIM models were tested with Male Attachment predicting Female Relationship Quality and Female Attachment predicting Male Relationship Quality. Results indicate that own attachment was a stronger predictor of partner relationship quality over time than was own relationship quality to partner attachment; although male relationship quality did predict female attachment from T1 to T3, it was not significant at all other time points. Clinical implications and future research are discussed.

Keywords: attachment, relationship quality, longitudinal design, APIM

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Attachment and Relationship Quality: A Longitudinal Cross-Lagged Panel Model Examining the Association of Attachment Styles and Relationship Quality in Married Couples

For decades researchers have been interested in the association between adult attachment and couple relationship quality (Mikulincer & Shaver, 2016). Attachment theorists suggest that an individual's attachment typology (i.e., secure, anxious, or avoidant) will influence the quality of adult romantic relationships (Cobb, Davila, & Bradbury, 2001). Indeed, studies have shown that physical and emotional withdrawal is common in individuals who report an avoidant attachment (Guerrero, 1996), while anxiously-attached individuals may excessively seek reassurance (Shaver, Schachner, & Mikulincer, 2005). Other studies have shown that these negative patterns of interaction are associated with a decrease in relationship quality (Li & Chan, 2012), while couples with a secure attachment report higher levels of relationship quality (Kobak & Hazan, 1991).

The association between insecure attachment and lower relationship quality is important because poor relationship quality in married couples has been linked to problematic physical health outcomes (Robles, Slatcher, Trombello, & McGinn, 2014), increased mental health concerns like depression and anxiety (Leach, Butterworth, Olesen, & Mackinnon, 2013), decreases in workplace satisfaction (Rogers & May, 2003), and a range of child and adolescent outcomes (Day, Hair, Moore, Orthor, & Kaye, 2009). These studies all help support the idea that relationship quality is an important issue of public health.

Though previous research has shown that attachment styles are predictive of relationship quality (Sandberg, Bradford, & Brown, 2017), there has also been some, albeit limited support for relationship quality predicting attachment (Benson, Sevier, & Christensen, 2013). This bi-directional association has been contested (Johnson & Greenman, 2013) and the current study

seeks to examine the extent to which attachment and relationship quality predict one another in a cross-lagged longitudinal model, while also accounting for actor effects as well as partner effects across time.

Literature Review

Attachment Theory

Attachment theory is a well-established framework for understanding how individuals develop views of themselves and the world around them (Bowlby, 1969). A large body of research supports Bowlby's theory of attachment and the connection between the type of attachment an individual experiences and the relationships formed throughout life (Li & Chan, 2012).

Attachment theory was developed from the personal experience and clinical career of John Bowlby and the observational studies of Mary Salter Ainsworth. During World War II, Bowlby began working with delinquent boys, many of whom had experienced early childhood separation from their parents. Bowlby (1969) proposed that separation and loss during early childhood could lead to a maladaptive view of self as well as how one views the world, and these "internal working models" would then influence behavior. Bowlby suggested that an attachment behavioral system gets activated upon distress (e.g., separation or loss), and its primary function is to seek protection from threats and relieve internal stress brought on by the distressing event. Based on Bowlby's ideas about separation, loss, and subsequent behaviors, Mary Salter Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) conducted observational studies of mothers and children, wherein she created temporary separation scenarios and then catalogued the response behaviors of the children upon each separation and reunion. Ainsworth distilled the children's separation and reunification behaviors into three different types of attachment to the

primary caregiver: secure, anxious, and avoidant. Ainsworth posited that as children seek proximity to their primary caregiver and develop a “secure base”, they are then free to explore the world, with the internal assurance that their caregiver represents a solid foundation that will continually be available to them. This attachment figure also becomes a “safe haven” for the child in times of threat or danger to offer comfort and stability (Feeney, 2008). During these formative years, children learn that the world is a safe place where their needs are met and that they are loved or they learn that the world is possibly dangerous, where needs may be intermittently acknowledged or even neglected. Ainsworth’s studies brought to life Bowlby’s concept of internal working models and the activation of the attachment behavioral system. Bowlby suggested that an individual’s attachment experience follows them throughout life when he said “...attachment behaviour (sic) is held to characterize human beings from the cradle to the grave...” (Bowlby, 1979, p. 129). These internal working models of self and others influence how an individual is able to respond to threat and danger and these responses will likely become repeated patterns in a variety of different relationships (Bowlby, 1979). As the link between childhood attachment and childhood outcomes became clearer, researchers began to ask what role attachment plays in adulthood development.

Attachment in Adulthood

For decades this pioneering theory has been the foundation of a vast body of literature aimed at understanding relational bonds between parents and children, from infancy through adolescence and into young adulthood (Main, Kaplan, & Cassidy, 1985) and how the parent/child relationship is associated with adult pair bonds (Mehta, Cowan, & Cowan, 2009). Hazan and Shaver (1987) conceptualized the idea that the bonds formed with parents in childhood are the basis for the bonds created in adult romantic relationships. They applied the

varying attachment types that Ainsworth et al., (1978) described (i.e., secure, avoidant, and anxious-ambivalent) to adults. Later, Bartholomew and Horowitz (1991) theorized four different categories of attachment: (1) Secure Attachment indicates an individual has a positive self-concept (I am loveable) and a sense that others are trustworthy and dependable (I can trust you); (2) Preoccupied Attachment style is evidenced by a positive view of others but are often plagued with self-doubt, which may lead to dependent behavior (Shaver et al., 2005); (3) Dismissive Attachment shows high levels of self-confidence and low levels of emotional intimacy; and finally (4) Fearful Attachment is defined by low levels of self-confidence and low levels of seeking emotional intimacy under varied circumstances (Bartholomew & Horowitz, 1991).

It is important to note two distinctions between childhood attachment and adult attachment that have surfaced. First, the relationship between child and caregiver is primarily asymmetrical—where the child seeks protection and alleviation from distress but does not reciprocate that behavior for the caregiver. Adult relationships are more symmetrical, with both partners (potentially) capable of providing and seeking support (Zeifman & Hazan, 2016). Second, as adults enter into bonding relationships they are capable of creating a mental picture or image of their partner during periods of separation, which potentially could help deactivate distress if the bond between partners is secure. This cognitive ability is undeveloped in infancy and adds to the differences in attachment moving from childhood to adulthood (Zeifman & Hazan, 2016).

Despite these differences, researchers continued to develop conceptual models to increase overall understanding of attachment and its role in adult relationships. For example, Brennan and Shaver (1995) suggested that attachment-related patterns of interaction be viewed on two separate dimensions of avoidance and anxiety. If an individual reports low attachment avoidance

and high attachment anxiety, they are placed in the “preoccupied or fearful” attachment style category, whereas a securely attached individual would report low levels in both dimensions. As a way to understand the behaviors of the various types of attachment styles, Mikulincer and Shaver (2007) proposed an integrated model where upon assessing a threat, individuals will employ coping strategies that fall on a continuum from hyperactivating to deactivating strategies.

Coping strategies are meant to regulate the distressing emotional response to the threat, physical or psychological, based on the accessibility and responsiveness of the primary attachment figure. Once the attachment system has been activated, individuals seek either an internal representation of an attachment figure or a physical attachment figure. If the attachment figure is present and reliable, a co-regulation of affect occurs (i.e., distress relief) and a secure attachment is formed. When the attachment figure is not present or reliable, the distress intensifies and individuals either use hyperactivating (emotional reactivity) or deactivating methods (emotional cutoff) in an effort to decrease the distress. Both strategies have been found to mediate the association between interpersonal problems and negative mood; that is the relationship between negative mood and interpersonal problems was explained for avoidant-attached individuals through their emotional cutoff strategies, and for anxious-attached individuals through emotional reactivity strategies (Wei, Vogel, Ku, & Zakalik, 2005). In adults, these strategies inevitably come into play in primary relationships, where attachment longings and cues are regularly activated (Johnson, 2003).

Adult attachment provides an important framework to help understand romantic love and pair bonding. The next section will review four factors that have been shown to be important when considering relationship quality through an adult attachment lens: 1) Relationship formation; 2) Commitment; 3) Communication; and 4) Physical Intimacy.

Adult Attachment and Relationship Quality

In an effort to understand the differences between anxious and avoidant attachment and the impact on relationship quality, Li and Chan (2012) conducted an extensive meta-analysis that included over 70 studies with 118 samples. This study was the first of its kind to quantitatively examine anxious and avoidant attachment styles and three different aspects (i.e., cognitive, emotional, and behavioral) of relationship quality. Both attachment dimensions showed a negative association between indicators of good relationship quality. For example, avoidance was statistically different from anxiety for both the cognitive (i.e., general satisfaction and connectedness) and behavioral indicators (i.e., general support and constructive interaction) of relationship quality. Yet, avoidant individuals were significantly different than anxious individuals when it came to general satisfaction, general support, and connectedness. This is not surprising, given that avoidant individuals are uncomfortable with closeness and engage in deactivating strategies to limit the importance placed on the romantic other (Mikulincer, Shaver, & Pereg, 2003).

On the other hand, anxious individuals differed significantly from avoidant individuals on the general conflict measure. This breakdown of insecurity type provides an in-depth view of the distinctive impact, and the degree of impact, anxious and avoidant types have on healthy relationship indicators. Li and Chan (2012) posit that while anxiously attached individuals are more sensitive to relationships and place high value and importance on relationships, avoidant attached individuals attempt to keep the relationship from becoming too important and thus may express more dissatisfaction in their close relationships. This meta-analysis concludes that both anxious and avoidant attached individuals report negative relationship quality outcomes; and avoidant attached individuals experience greater general relationship dissatisfaction.

The sections that follow will focus on several different aspects of relationship quality that have been associated with attachment in the extant literature: 1) relationship formation, 2) commitment, 3) communication, and 4) physical intimacy.

Relationship formation. Zeifman and Hazan (2016) propose a three-stage model of attachment in relationship formation, where attachment is activated differently in each stage. Stage 1: Initial pre-attachment sexual attraction to any potential partner and may include somewhat “indiscriminate” attempts at flirting and getting a potential partner’s attention (p. 426). Stage 2: Attachment systems become activated and is considered “attachment in the making” (p. 427), when romantic attraction is focused exclusively on one person. According to one study conducted with single undergraduate college students, participants who reported feeling worthy of love and had the expectation that a potential partner would be responsive, available in times of need and capable of responding to needs (i.e., secure attachment) were more likely to progress in dating (i.e., go on more dates, begin dating exclusively) than those whose internal working models of self and other were either avoidant or anxious (Poulsen, Holman, Busby, & Carroll, 2013). Stage 3: “Clear-cut attachment” (p. 427) occurs when partners are able to expand their focus to other pursuits (e.g., friendships, work, hobbies) once they feel secure in the relationship (i.e., secure base). This stage could lead to long-term relationships, including marriage. Other studies have shown that more securely attached individuals believe that falling in love and transitioning into a long-term committed relationship is possible, whereas insecure individuals are less confident that this will happen (Hazan & Shaver, 1987; Whitaker, Beach, Etherton, Wakefield, & Anderson, 1999).

Commitment. A large number of studies have examined the connection between attachment styles and commitment as part of how individuals form relationships (for a

comprehensive list see Mikulincer & Shaver, 2016). Specifically, individuals within the anxious and avoidant attachment dimensions report lower levels of commitment (Pistole, Clark, & Tubbs, 1995; Treboux, Crowell, & Waters, 2004) although the reasons behind the lower commitment levels most likely differ. Anxiously attached individuals may report lower levels of commitment for fear of being disappointed, and fear that a partner will not be accessible and responsive in times of need, while avoidantly attached individuals may be more reluctant to invest the time and energy necessary for a long-term relationship (Mikulincer & Shaver, 2016). Yet insecurely attached individuals still enter into long-term relationships and also get married. Attachment theorists suggest there is an evolutionary purpose to pair bonding to ensure the best conditions for off-spring (Simpson & Belsky, 2016) which despite one's attachment typology, may play a part in people committing to long-term relationships.

Communication. The ability to communicate is considered a fundamental skill, encompassing reading, writing, speaking, and understanding/listening. Given its primary importance, it is unsurprising that 'difficulties communicating' is a top complaint for couples seeking therapy (Doss, Simpson, & Christensen, 2004). Communication is a primary mechanism by which partners are able to ask for and meet one another's needs, thereby strengthening the attachment relationship (Bretherton, 1990). Both verbal and non-verbal communication have been linked to attachment-related processes (Feeney, 2008; Kafetsios, Andriopoulos, & Papachiou, 2014; Noller & Feeney, 1994; Sadikaj, Moskowitz, & Zuroff, 2017). For example, empathy—the ability to accurately perceive how another person is feeling—is thought to be an important ingredient in the ability to communicate effectively and in creating satisfying relationships (Fincham, Paleri, & Regalia, 2002; Wolf, Gales, Shane, & Shane, 2001). Overall and colleagues (2015) found that avoidant partners were able to accurately assess their partner's

shift in emotions, but overestimated the intensity of negative emotions in their partner.

Additionally, this overestimation of how negative their partner was feeling was associated with hostile and defensive behaviors in avoidant-attached individuals. This was true only for the avoidant-attached partners. Anxious-attached partners did not show a bias in perceptions of their partner's emotions and did not engage in defensive reactions.

However, in videotaped discussions, Guerrero (1996) found that anxious-attached partners were more vocal and physically distressed, thereby increasing the intensity of the discussion. Feeney (1999) found that anxiously attached married partners experienced high levels of partner-related negative emotional intensity, but also reported higher levels of emotional control. It is possible that these anxiously attached partners withheld their emotional experience in an effort to lower the risk of rejection or disappointment or preemptively avoid a conflict (Simpson, Ickes, & Oriña, 2001; Tucker & Anders, 1999).

Reluctance to disclose emotionally charged information is generally more common in avoidant partners (Feeney, 2008); this is congruent with the avoidant internal working model that others are untrustworthy, unreliable, and unable to meet needs (Bowlby, 1973). Simpson et al. (2011) conducted two studies examining couple dyads discussing relationship "danger zones" (i.e., topics that could result in difficult revelations about each partner's internal experience, thoughts, and emotions). Highly anxious individuals scored higher on empathic accuracy and avoidant individuals displayed less empathic accuracy. Simpson and colleagues (2011) posit that as part of their deactivating strategy to protect themselves, highly avoidant individuals do not "get into their partner's head" (p. 247) during difficult attachment-related discussions. These "danger zones" seem to be managed differently based on attachment typology. This next

subsection will explore these conflicts, how partners manage them and the association with attachment typology.

Conflict management. An important aspect of experiencing connectedness with a partner is the ability to maintain closeness in times of distress (Johnson & Greenberg, 1987). It is inevitable that couples in long-term relationships will experience conflict, but how the couple handles the conflict is a crucial ingredient to establishing and maintaining satisfying relationships (Gottman & Silver, 1999). In a comprehensive review of the conflict and attachment literature, Feeney and Karantzas (2017) distill their findings into three distinct categories: 1) Perceptions of the conflict, 2) responses to the conflict (physiological and hyperactivating/deactivating strategies) and 3) conflict related outcomes.

First, anxious and avoidant individuals have differing perceptions about the amount of conflict as well as the intensity of the conflict. While both are less accurate at decoding their partner's messages, their perception of the intention behind the message differs from one another. Anxiously attached individuals are unable to accurately decode their partner's positive messages, often times missing attempts at repair. Whereas avoidant attached individuals in an attempt to downplay the relationship's importance, do not accurately decode their partner's negative nonverbal messages. Second, both avoidant and anxious attached individuals experience physiological reactivity to conflict, yet how they manage that response is different. Not surprisingly, avoidant individuals will physically withdraw as well as decrease their level of involvement in the conflict, and are less likely attempt mutual negotiation. Anxious individuals exhibit demanding, coercive, and dominating behaviors. Finally, the outcomes of the perception of conflict and then corresponding responses for anxious individuals is overall relationship distress as well as rumination, hurt, and emotional problems. Avoidant individuals also

experience relationship distress and may become defensive and distant. It is clear that while both anxious and avoidant individuals experience negative personal and interpersonal outcomes there are marked differences between both types.

As previously stated, the decoding accuracy—perception of the conflict—of a partner's message, whether positive or negative is compromised for insecurely attached individuals. Beck and colleagues (2013) conducted an extensive study examining the link between physiological and behavioral responses to conflict and attachment style pairing among couples (e.g., anxious wife paired with avoidant husband, etc.). Overall, findings supported previous research evidence that insecurely attached couples have difficulty managing conflict (see Mikulincer & Shaver, 2016). Specifically, Beck and colleagues (2013) found that anxious wives and avoidant husbands had a large physiological stress response to conflict, as seen by sharp increases in cortisol levels. Additionally, anxious wives were not attuned to their avoidant husband's distress, and avoidant husbands did not seek help during or after the conflict. In a study linking immune response to marital conflict and attachment, Gouin et al. (2009) found that avoidant-attached partners experienced an inflammatory response during conflict, as opposed to their anxiously attached counterparts that experienced a decrease inflammatory response. They also found that avoidant strategies were associated with more negative behaviors during conflict.

Similarly, other studies have found that insecurely attached partners engage in destructive communication patterns (Domingue & Mollen, 2009; Pearce & Halford, 2008; Roberts & Noller, 1998) while securely attached individuals are less likely to exhibit negative affect during conflict (Simpson, Collins, Tran, & Haydon, 2007) and also show increased levels of responsiveness, which is associated with lower levels of anger in avoidant attached partners (Overall, Simpson, & Struthers, 2013).

Physical intimacy. Bowlby asserted that attachment behavioral systems become an integral part of how individuals see themselves and others, especially in close attachment relationships (1973). Shaver and Mikulincer (2012) proposed a sexual behavioral system, which is inextricably connected to the attachment system. This system explains “individual differences in sexual motives, feelings, attitudes, and activities, and in the effects that sexuality has on the formation and maintenance of romantic and marital relationships” (p. 161). Research has found an association with attachment insecurities, sexual problems, and relationship quality. For example, avoidant attachment is linked with low levels of sexual and marital satisfaction (Milad, Ottenberger, & Artigas, 2014), an accepting attitude of non-committed sex (Brennan & Shaver, 1995), more likely to engage in game-playing and deception (Stephan & Bachman, 1999), and consensual but unwanted sexual experiences (Gentzler & Kerns, 2004). Additionally, anxious-ambivalent attached women report engaging in more sex outside of their primary relationship (Gangestad & Thornhill, 1997), and both anxious men and women reported having difficulty discussing sexual matters, were less likely to resist unwanted sexual contact, and more likely engage in unsafe sex (Feeney & Noller, 2004).

Shaver and Mikulincer (2012) created a self-report measure, the Sexual Behavioral System Scale (SBSS) that attempts to capture the hyperactivating or deactivating strategies used when the sexual behavioral system is activated. Hyperactivating strategies include pre-occupation with sexual intimacy, coercion, and hypervigilance to any signs of sexual acceptance or rejection. On the other end of the spectrum, deactivating strategies include an avoidant attitude towards sex, dismissal of sexual needs—either one’s own or one’s partner, suppression of fantasy or thoughts, as well as repression of sexual memories. They found that higher scores on either end of the spectrum scored lower on relationship satisfaction, intimacy and commitment.

Based on these findings, and others (e.g., Feeney & Noller, 2004) the sexual behavioral system may be activated as a means to achieve other attachment-related goals (e.g., to remain emotionally distant or to foster emotional closeness), which is associated with relationship satisfaction.

Gender. Researchers have examined gender differences in attachment styles, attachment behavioral strategies (Sandberg et al., 2017), and attitudes related to attachment in romantic relationships (Monteoliva, García-Martínez, Calvo-Salguero, & Aguilar-Luzón, 2012). A brief note should be made in discussing gender differences. Most studies seem to use the terms ‘gender’ and ‘sex’ interchangeably, but there is some debate about the distinct nature of gender and sex (Pryzgodna & Chrisler, 2000) and many studies did not address terms specifically. This review matches the terms used by each study.

In an extensive cross-cultural meta-analysis examining sex differences in romantic attachment styles, Del Giudice (2011) parsed out sample type (i.e., community, college, and web samples) was factored into the analysis, community and college samples showed the largest effect sizes, where females reported more anxious attachment ($d = -.18$), and males reported more avoidant attachment ($d = .14$; with bivariate $D = .28$) Another aspect of this study included an analysis of relative distribution of attachment style, rather than only standardized effects and means, which are most useful when data are normally distributed. The author suggests that the relative distribution of men and women attachment styles allows for a clearer picture of the possible gender differences because the distributions are slightly skewed, thus potentially underestimating the real differences between men and women. Indeed, the relative distribution results suggest that the largest gender differences happen in insecurely attached men and women: men being more avoidant-attached and women being more anxiously attached.

The previous study examined general attachment styles and sex, while other studies have focused on differences between gender, attachment style, and other outcomes. For example, studies examining romantic jealousy and attachment have drawn different conclusions about attachment's influence on whether or not men and women will experience distress at potential physical or emotional infidelity (Burchell & Ward, 2011; Tagler & Gentry, 2011). Tagler and Gentry (2011) did not find attachment to be a predictor of romantic jealousy in either men or women, whereas, Burchell and Ward (2011) found that male avoidant attachment style was predictive of romantic jealousy, but no significant findings were associated with any attachment style for females.

Findings such as those above are common in their inconsistency (Scharfe, 2016) thus it is difficult to draw strong and definitive conclusions about exactly how attachment styles in men and women differ, and whether it is a function of biology, socialization, or other contextual factors (Del Giudice, 2011). Further research is needed to really understand the complexity of the differences. Broadly, what does emerge from the literature on attachment is that insecure attachment style is strongly associated with lower levels of relationship quality for both men and women on either end of the anxiety-avoidance spectrum, with some evidence to support that women are more anxiously attached and men are more avoidantly attached (Del Giudice, 2018).

Summary. Extant literature suggests higher levels of both anxiety and avoidance—and the accompanying hyperactivating and deactivating strategies—are inversely related to relationship quality overall, and specifically to the components of relationship quality as discussed. This broad review of attachment and relationship quality suggests there is substantial evidence in support of a strong association between how attachment typologies impact relationship quality.

The next two sections will review stability and change of 1) attachment and 2) relationship quality (RQ). The current study seeks to understand the longitudinal relationship of attachment and RQ, whether or not there is change over time, and to what extent they predict one another. The attachment section will consider stability and change across the lifespan as, according to the theory, attachments formed in infancy and early childhood follow through to adolescence and adulthood (Bowlby, 1973). The relationship quality section will examine the adolescent and adult romantic partnerships, as this is the time most common for romantic partnerships to develop.

Attachment Stability and Change

Infancy. Attachment theory suggests that the beliefs about self and others developed in infancy and early childhood influence relationships in adulthood (Bowlby, 1973). Many researchers have examined the factors that contribute to attachment stability and change through different developmental stages across the life span and have found mixed results (for a comprehensive review, see McConnell & Moss, 2011). For example, (Main & Weston, 1981) conducted the Strange Situation method with low-risk mothers and fathers with infants at 12 and 18 months of age. When observed with the father at 12 months and then again at 18 months, 86% of the infants remained in their original attachment style, and when observed with the mother, the infants showed slightly lower stability rates at 73%.

In two connected studies Belsky, Campbell, Cohn, and Moore (1996) also looked at low-risk families with both mothers and fathers in the Strange Situation and found 46-55% infants displayed the same attachment style at 12 months and 18 months. Belsky and colleagues (1996) suggest that the difference in findings could be attributed to changing familial patterns in the 10-

15 years—the majority of mothers returning to the work force within the first 6 months of the infant's life and an increase in father involvement.

Other studies have focused on specific contributing factors to attachment stability or change. Maternal depression, education, parenting type (i.e., nonpunitive vs. punitive, sensitive to emotional needs vs. less sensitive, supportive of autonomy vs. controlling) inconsistent availability, and high stress life events (Egeland & Farber, 1984; Frodi, Grolnick, & Bridges, 1985; Vondra, Dowdell Hommerding, & Shaw, 1999) were all contributing factors for infants staying insecurely attached from 12 to 18 months of age or changing from secure attachment to insecure attachment. Additionally, mother and infant temperament was found to play a role in attachment stability. For example, Egeland and Farber (1984) found that infants who were rated by nurses to be less attentive during feedings and less easy to care for remained stable in the insecurely attached category. Mothers in the same study who reported more aggression and suspiciousness had infants who were more likely to stay in the insecurely attached category. In contrast, mothers in the same study that initially found motherhood frightening and reported feeling unsure about their role, had infants categorized as insecure at 12 months but moved to securely attached at 18 months as mothers began to grow into their role and became more engaged in their child's life.

It is clear from these studies in infancy that the possibility of changing from one attachment style to another can occur but the findings are somewhat inconsistent in terms of how often and under what circumstances it happens.

Early childhood and adolescence. The majority of studies on attachment changes and stability have focused on infancy to 24 months (McConnell & Moss, 2011). There are however some studies that have examined the early childhood period and have found the same

inconsistencies as with attachment in infancy. Main and Cassidy (1988) found 84% stability in attachment from infancy to 6 years of age, while another study found 29% of stability across the three time points examined—14, 24, and 58 months of age (Bar-Haim, Sutton, Fox, & Marvin, 2000). Factors contributing to the stability of insecurely attached children or changes from security to insecurity included more maternal negative life events (Bar-Haim et al., 2000), low marital satisfaction, decline in interactive quality with mother (Moss, Cyr, Bureau, Tarabulsky, & Dubois-Comtois, 2005), less family income, less maternal education, and lower maternal sensitivity at 24 and 36 months (NICHD, 2001). The converse was also true in the NICHD study; maternal sensitivity was higher for children that changed from insecure to secure attachment and those that remained in the secure category across the time points. These findings are similar to stable securely attached infants and infants that went from insecure to secure (Frodi, Grolnick, & Bridges, 1985), suggesting that mothers who can respond to their young children with sensitivity can help them develop and maintain secure attachments.

As children move from early childhood to adolescence they become more autonomous and strive to form their own identities separate from their parents, while still maintaining the attachment bonds created in early childhood (Moretti & Peled, 2004). In fact, there is evidence to suggest that attachment remains stable through adolescence in low risk families, whether that is remaining securely or insecurely attached (Ammaniti, Van Ijzendoorn, Speranza, & Tambelli, 2000; Zimmer-Gembeck, Siebenbruner, & Collins, 2001). Attachment to parents during the adolescent phase is also associated with positive and negative outcomes during that time. For teens reporting more maternal supportiveness during times of disagreement, they were able to move towards attachment security (Allen, McElhaney, Kuperminc, & Jodl, 2004). Another study examined the association between attachment to parents and peers to emotional and behavioral

outcomes and found that insecure parent-child attachment was predictive of conduct problems and emotional difficulties (Oldfield, Humphrey, & Hebron, 2016). This same study found that secure attachment with friends was predictive of pro-social behaviors but parental attachment was not, suggesting that positive connectedness with peers may act as a buffer when parental relationships are strained.

As adolescents begin to place higher importance on peer groups, Parra, Oliva, and Sánchez-Queija (2015) examined self-reported levels of parental care in childhood and peer relationships at three different times—13, 15 and 18 years of age. They found that higher levels of care in childhood predicted higher levels of peer attachment in adolescence. This study is intriguing as it relates to a possible transfer from primary caregiver attachment to peer attachment, which may then be transferred to an adult romantic partner (Hazan & Shaver, 1987). This is important context for how adolescents transition into adulthood and shift their attachment figures to romantic loved ones. The current study seeks to examine attachment bonds specific to couples and its association with relationship quality, and will be explored in the next section.

Adulthood. Zhang and Labouvie-Vief (2004) examined attachment style stability and change using the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), which describes four different types of adult attachment in close relationships—secure, preoccupied, dismissing, and fearful-avoidant. They also examined defensive and integrated coping strategies in conjunction with attachment style using subscales from the California Psychological Index (CPI; Gough, 1987). Zhang and Labouvie-Vief (2004) administered the RQ and CPI to 370 participants, ages 15-87, at three times points across a six-year period. The results indicated that attachment was somewhat stable over the six year but stability was lower between T1 and T3 (a six-year interval) ranging from .24 to .45 than it was between T1 and T2 (a two-year interval)

ranging from .40 to .49. When coping strategies were also examined, they found that change from secure to insecure attachment was significantly predicted by depressive symptoms and defensive coping—which were defined as having “rigid, maladaptive, and less mature ways of interacting with the environment” (p. 424).

Conversely change from insecurity to security was predicted by integrated coping strategies, which included degree of flexibility, objectivity, and “reality-oriented” (Zhang & Labouvie-Vief, 2004, p. 424) ways of interacting with the world. These findings suggest a significant correlation between how one is managing to cope with their life circumstances and how their respective attachment styles may change. Other longitudinal studies have found that remaining insecurely attached and changing from securely to insecurely attached is correlated with negative life events (Aikins, Howes, & Hamilton, 2009; Hamilton, 2000), maternal depression (Weinfield, Sroufe, & Egeland, 2000) and parental mental illness or familial physical/sexual abuse (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000).

In an effort to understand the mechanisms underlying changes from insecure to secure attachment, Roisman, Padrón, Sroufe, and Egeland (2002) conducted a comprehensive study that utilized both prospective and retrospective data from the same cohort that spanned 23 years—Time 1 with infants 12 months old, Time 2 with adolescents 13 years of age, and Time 3 with young adults 22 years of age. The authors examined assessments taken in infancy and compared them to assessments taken in adolescence and adulthood and created three different groups: insecure (remaining insecurely attached throughout the 23-year span) “earned-secure” (going from insecure to secure), and continuous-secure (remaining securely attached throughout the 23-year span). The “earned-security” category was coined by Pearson, Cohn, Cowan & Cowan, (1994); suggesting these individuals have overcome childhood maltreatment and find themselves

able to securely attach in adolescence and adulthood. The only significant difference between the insecure and earned-security groups was the earned-security group experienced less loving and more rejecting fathers. Among the variables this study examined was romantic relationship quality among all three groups. As the authors predicted, those in the earned-security and continuous-secure groups had significantly higher levels of relationship quality.

To summarize, the research on the stability or changeability of attachment across the lifespan has shown varied results. While some show extremely high levels of stability (e.g., 96%, Waters, 1978), others have shown much lower rates (e.g., 46%, Belsky, et al., 1996). Even in studies where the rates of stability were higher, there are still those that moved from one classification of attachment to another—thus allowing the conclusion that attachment style can indeed change for some people, under some circumstances.

Relationship Quality as a Predictor of Attachment

Relationship quality has been shown to predict depression (Beach, 2001), physical health (Kiecolt-Glaser & Wilson, 2017), workplace satisfaction (Sandberg et al., 2013) and other facets of mental health (Whisman, 2001). Very few studies have examined RQ as a possible predictor of attachment, which, given the close nature of these two variables, is an important question to test. This next section will address the following: 1) relationship quality definition, 2) theoretical framing for relationship quality as a predictor, and 3) research with relationship quality as predictor generally, and then as a predictor of attachment specifically.

Defining terms. When considering relationship quality, it is important to note that the operationalization of the ‘relationship quality’ variable tends to differ amongst researchers in a variety of fields and thus similar but distinctive terms have emerged (e.g., happiness, satisfaction, adjustment, etc.) and have been used interchangeably (Fincham & Rogge, 2010; Funk & Rogge,

2007). In an extensive review of relationship quality and health literature, Robles and colleagues (2014) suggest that a good working definition of relationship quality is “high levels of self-reported satisfaction with the relationship, predominately positive attitudes towards one’s partner and low levels of hostile behavior” (p. 141). Conversely, low relationship quality can be defined by the inverse of those found in high relationship quality— “low satisfaction, predominately negative attitudes towards partner, and high levels of hostile and negative behavior” (p. 141).

As Fincham and Rogge point out (2010) there is debate about the overall construct of relationship quality/relationship satisfaction and the use of theory in the extant literature to support how each study chooses to define the terms. While this poses “conceptual confusion” (p. 227), Fincham and Rogge (2010) suggest research that uses an individual’s subjective assessment of her/his romantic relationship, the use of relationship quality and relationship satisfaction interchangeably is appropriate, including marital quality and satisfaction. It is beyond the scope of this review and study to address the levels of complexity involved in conceptualizing and operationalizing the terms in any given assessment or tool measuring relationship quality or satisfaction. Given the limited purpose of the current review, and following Fincham and Rogge’s (2010) suggestion, ‘relationship quality’ (RQ) will be used to describe the phenomenon of how individuals report their subjective evaluation of their romantic relationship.

Theoretical framework. McConnell and Moss (2011) completed a comprehensive review of the extant literature that examined the contributing factors to attachment stability and change across the life span. They suggested that one of the purposes of their paper was to attempt to isolate variables that contribute to the stability of attachment and change from insecure attachment to secure attachment. They also suggest that isolating these variables will help

clinicians to target “those specific areas when considering stability of attachment in both research and clinical settings.” (McConnell & Moss, 2011). This literature review has examined the close association between attachment and relationship quality and the role attachment plays in developing romantic relationships. The vast majority of studies have examined this association from the direction of attachment predicting relationship quality—the assumption being that it is unidirectional. However, there is precedent for facets of RQ being a predictor of a variety of outcomes.

Beach, Fincham, and Katz (1998) argue that marital discord precedes depression; their work focused on therapeutic interventions for couples where one partner has depression. As they began to see decreases in marital discord, they also saw decreases in levels of depression. In theory, it is possible that the global assessment of relationship quality could predict how individuals experience their attachment. For example, if the RQ assessment item is ‘We have a good relationship’, this question captures the partner’s perception of the relationship. If participants rank low on the level of agreement with this question, it is possible that it would predict higher level responses to attachment questions such as ‘I find it difficult to depend on my partner.’

In other words, if an individual feels he/she is in a relatively bad relationship, he/she is going to feel it is more difficult to depend on their partner in times of need. Over time, it may be the case that the worse one partner perceives the overall relationship to be, the more difficult it would be to turn to their partner in a moment of need and depend on them. This iteration could potentially play out over the course of a relationship’s lifespan and reinforce itself. Then the less one partner feels comfortable depending on their partner, the worse they feel about their relationship. This negative pattern could be bi-directional but current research has not adequately

tested the alternative hypothesis that RQ could predict their own or their partner's attachment. Thus, the marital discord model fits within the current study as a guiding framework to ask this relevant question.

Relationship quality as predictor. The average age adults in the United States of America get married has continued to rise over the past 30 years. According to the US Census Bureau, as of 2017, men on average are 29.5 years of age at the time of their first marriage, and women are slightly behind them at 27.4 years of age. However, recent research has shown that around 35% of adolescents begin developing romantic relationships much earlier than that, between ages 13 and 18 years of age (Enhart, Anderson, & Smith, 2015); making the formation of romantic relationships an important developmental phase for nearly one-third of adolescents, and while there is less teen dating than there has been in the past, it is still an important aspect of adolescent development (Twenge & Park, 2017).

Research has found mixed results concerning positive and negative outcomes for adolescents forming romantic relationships. For example, teen dating has been linked to better mental health and social adjustment later in young adulthood (Collibee & Furman, 2015), while it has also been connected to substance abuse (Davies & Windle, 2000), difficulties in school and risk of depression (Zimmer-Gembeck et al., 2001). Kansky and Allen (2018) suggest that a key component to better understanding these mixed findings is the quality of these early relationships. They longitudinally assessed teens at age 17 and again between 25-27 years of age for hostile conflict and support behaviors. Results of the study indicated that teens reporting higher levels of hostile conflict in romantic partnerships, there was a corresponding increase in depression and anxiety in adulthood. Conversely, higher levels of support (e.g., turning to each other during stressful times for emotional support) in the adolescent romantic relationship

predicted lower levels of externalizing behaviors by age 26, but there was no significant predictive effect on internalizing behaviors. These results support adult relationship findings that suggest RQ is predictive of internalizing and externalizing behaviors (Beach, Katz, Kim, & Brody, 2003; Overbeek et al., 2006). These findings may also fit with the marital discord model, as described above, which was developed to describe the directional influence adult marital discord has on adult depression (Beach, 2001).

Beyond depression, researchers have examined the association between marital discord and other facets of a couples' life (Bradford et al., 2014; Proulx, Helms, & Buehler, 2007; Sandberg et al., 2013). Substantial research has tested factors related to not only 'marital discord' but overall RQ and positive and negative outcomes (Fincham & Rogge, 2010; Proulx et al., 2007) in physical health (Kiecolt-Glaser & Wilson, 2017), mental health (Whisman, 2001), workplace satisfaction (Sandberg et al., 2013), and childhood outcomes (Day et al., 2009; Hair et al., 2009). These findings suggest a directional influence of RQ on other areas of life and this study seeks to test a possible predictive association to attachment.

RQ as predictor of attachment. There is a dearth of research that has tested the alternative hypothesis, that RQ might predict attachment, thus creating a gap in the literature. These two variables are so closely related; it is worth asking the question if there is a possibility of a bidirectional relationship. One clinical study set out to examine this alternative hypothesis: the possibility that relationship quality may predict attachment over time (Benson et al., 2013). This study randomly assigned 134 couples into two different therapy treatment groups: 66 couples in integrative behavioral couple therapy and 68 couples in traditional behavioral therapy. Each group received 26 weeks of therapy over the course of a year and were given the Dyadic Adjustment Scale (DAS; Spanier, 1976) and the Adult Attachment Scale (AAS; Collins & Read,

1990) at pre-treatment, 13 weeks into treatment, at 26 weeks of treatment, 2 year and 5 year follow-up after treatment ended. The main research questions of this study were 1) does attachment change over time in therapy models that do not specifically address attachment, 2) attachment style's concurrent relationship to RQ over the course of time, and 3) does early RQ predict attachment across time and vice versa.

To answer the first question, two separate three-level multilevel models were used and showed that anxious attachment and avoidant attachment was relatively stable across the time points tested for anxious and avoidant attachment. Results for the second study objective—to determine if there is a relationship between attachment style and RQ—showed that anxious attachment had a statistically significant negative relationship to RQ. They found that as anxious attachment decreased, RQ increased over time, even though change in attachment was not statistically significant overtime, there was still some relationship between movement in attachment and movement in RQ that suggests these two variables are related in expected ways. The same was true for avoidant attachment although significance was only found at pre-treatment.

In their third and final question, Benson and colleagues (2013) asked more specifically if early changes in RQ predicted later changes attachment, as well as if early changes in attachment predicted later changes in RQ, thereby using a lagged multilevel model—instead of a concurrent model, as was used for their second research aim. These models were constructed to examine the period of time participants were in therapy, on average over the course of 8 months. The findings suggest that at 13 weeks RQ levels predicted anxious attachment at the end of treatment. Other models showed that pre-treatment levels of RQ showed a positive relationship with anxious attachment at the 2 year follow up—meaning the higher the RQ before treatment started, the

higher the anxiety at the 2 year follow up. Conversely, RQ levels at 26 weeks had a statistically significant negative relationship with anxious attachment at 2 years.

As for models with attachment as the predictor, they found that both anxious and avoidant attachment did not significantly predict RQ at the end of treatment, although they trended in the expected direction. None of the models showed significant results for avoidant attachment. While these lagged models were created to obtain further information about the directional relationship between RQ and attachment, the authors were unable to create models that had consistent time points for each variable due to the timing of when the assessments were given. Thus, they suggest caution in making comparisons between the two. It should also be noted that the measure used to determine levels and type of attachment (AAS; Collins & Read, 1990) was not necessarily assessing attachment to the spouse, which could impact the overall findings if it is a general representation of an attachment figure or specifically if participants are being asked to think of their romantic partner (in this case the spouse) (Mikulincer & Shaver, 2016). Given their findings, it seems that more information is needed to understand the directional relationship of partner-specific attachment and relationship quality.

Relationship quality is defined as a subjective sense of well-being and happiness with the relationship and one's partner, while secure attachment is a felt sense of security and trust with one's partner. A major aim of the study conducted by Benson and colleagues (2013) was to test the claim made by Emotionally-focused Therapy (EFT) that a secure attachment is an essential predictor of relationship quality and not the other way around; that relationship quality is a predictor for secure attachment. Johnson and Greenman (2013) wrote a response to the Benson article acknowledging some bi-directional influence between the two constructs but suggest that changes in attachment are going to fundamentally shift the structure of the relationship through

increased security and trust. This then allows couples to attend to the more pragmatic aspects of their relationship that are likely going to increase satisfaction “without formal skill building or negotiation training” (Johnson & Greenman, 2013, p. 422).

Current Study

Noting the suggestion from McConnell and Moss (2011) mentioned previously, to look closely at the variables connected to attachment, the current study seeks to isolate relationship quality (RQ) and longitudinally examine the directional nature of the association. Attachment types are strongly linked to RQ and RQ is strongly linked to success or distress in various aspects of life (e.g., physical health, mental well-being, workplace satisfaction). While there is considerable evidence to suggest that attachment types and behaviors are associated with RQ outcomes (Sandberg et al., 2017), there is a gap in understanding RQ’s effect on attachment. Broadly, filling in this gap will increase understanding about the direction of association between the two constructs. But more specifically, this is a relevant question for clinicians working with couples and could help inform where to target clinical interventions—that is, utilizing interventions to increase RQ or choosing interventions that increase attachment security. There is a growing body of literature that elucidates the influence partners have on each other in a variety of ways within their relationship. A main aim of this study is to gain an understanding of whether one’s own partner-specific attachment might predict her/his partner’s subjective sense of the relationship. Additionally, consideration of how attachment and RQ of one partner may predict their own effects and also her/his partner’s effects can inform clinical decisions and even aid public initiatives seeking to improve quality of life. This proposed study seeks to broaden our understanding of the link between relationship quality and attachment in community couples, while also accounting for the effects that partners have on one another.

Research Questions

Actor Effects Across Time

1. To what extent does male attachment predict male attachment?
2. To what extent does male relationship quality predict male relationship quality?
3. To what extent does female attachment predict female attachment?
4. To what extent does female relationship quality predict female relationship quality?

Partner Effects

1. To what extent do female attachment and male relationship quality predict each other?
2. To what extent do male attachment and female relationship quality predict each other?

Methodology

Participants

The participants for this study were taken from waves 1-7 of the Flourishing Families Project (FFP). The FFP is a longitudinal study involving families with a child between the ages of 10 and 14 at Time 1 (M age of child = 11.29, SD = 1.01). Families were primarily recruited using a purchased national telephone survey database (Polk Directories/InfoUSA) and were selected from a large city in the Pacific Northwest. Families were interviewed during the first eight months of 2007 for Time 1 data sample. Subsequently, families were interviewed at yearly intervals for a second (2008), third (2009), fourth (2010), and fifth time (2011). Of the 692 eligible families contacted, 423 agreed to participate, resulting in a 61% response rate.

All families were contacted directly using a multi-stage recruitment protocol, which included a mailed letter to eligible homes, home visits by interviewers and phone calls to ensure eligibility to participate in the study. If conditions were met, interviewers scheduled in-home visits to administer a battery of assessments as well as conduct videotaped interviews.

Some of the measures were taken out for time points 6-8 and participants were able to access the assessments online. This was done in an effort to maintain retention rates and quality of answers.

With the use of on-line surveys, the procedure was also modified. Each research assistant was assigned approximately 40-45 families from the Seattle area. At Time 1, the larger study consisted of 500 (163 single parent and 337 two-parent) families, with a 96% retention rate at time 2 ($N = 480$, 155 single parent and 325 two-parent families), 91.8% at Time 3 ($N = 459$, 138 single parent and 321 two-parent families), 93.8% retention rate at Time 4 ($N = 469$, 149 single parent and 320 two-parent families), 92.6% retention rate at Time 5 ($N = 463$, 311 two-parent families, and 151 single parent families), 90% retention rate at Time 8 ($N = 450$).

Data analyzed in this study was taken from Time 1 (data collected in 2007) through to Time 7 (data collected in 2013) and consisted of 335 couples that were married or cohabiting with at least one child living at home. The majority of the sample identified as White (65% European American, 12% African American, 19% Multi-Ethnic, < 1% Hispanic, Asian, or “other”). The average age for female participants was 43 years, ($SD = 6.4$, range 27-74) and 45 years ($SD = 6.2$, range 27-62) for males. The average length of relationship at Time 1 (T1) for females was 16.9 years ($SD = 6.6$, range from 0-40); the average length of relationship for males at T1 was 17.6 years ($SD = 5.3$, range from 1-37). The majority of females (60%) reported receiving a bachelor’s degree or higher and 47% of males reported receiving a bachelor’s degree or higher. The first quartile of the sample made \$51,600 or less annually, the next 25% made between \$52,200 and \$72,000, the next 25% made between \$72,300 and \$94,800, and the last quartile made \$96,000 annually.

Measures

Experience in close relationships. (ECR; Fraley, Waller, & Brennan, 2000). The ECR is an 18-item questionnaire developed to assess attachment typologies in adults. For the purposes of the Flourishing Families Project, the original 18-item questionnaire was shortened to 8-questions, examining anxious and avoidant attachment styles, with four questions for each attachment style. For example, on the anxious attachment scale questions such as “I often wish that my partner’s feelings for me were as strong as my feelings for him or her” are designed to capture an anxiously attached partner’s experience within the relationship. For the avoidant scale, an example question is “I prefer not to show my partner how I feel deep down”. The questions are rated on a Likert scale from 1-7, from 1 (strongly disagree) to 7 (strongly agree). There is some evidence to suggest that a shortened form of the ECR is as valid and reliable as the original long form (Wei, Russell, Mallinckrodt, & Vogel, 2007). Higher scores indicate higher levels of insecure attachment. This study will use time points 1, 3, 4, and 5, where the shortened version of the ECR was included in the battery of assessments. The overall reliability score across the four times points ranged from .708 to .839 for females and .709 to .840 for males. One latent construct was created for females and one latent construct was created for males, utilizing four anxious attachment and four avoidant attachment indicators.

Couple relationship quality. This 5-item measure was taken from a larger 20-item assessment, Quality Marriage Index (Norton, 1983), a widely used assessment of global relationship quality. To maintain consistency across assessments and avoid confusion for participants, the original measure was reduced from a 7-point Likert-type scale ranging from 1 “very strong disagreement” to 7 “very strong agreement,” to a 6-point Likert-type scale ranging from 1 “very strongly disagree” to 6 “very strongly agree”. Additionally, in an effort to account

for persons not married, Flourishing Families replaced ‘marriage’ with ‘relationship’. For example, “We have a good relationship” and “My relationship with my partner is very stable”. Higher scores indicate higher levels of relationship quality. This study will utilize time points 1, 3, 4, 5, 6, 7, and 8 of the couple relationship quality assessment. It is possible that attachment will predict relationship quality even after the study removed the ECR from the battery of assessments. Therefore, later waves of relationship quality data (i.e. Waves 6-8) will be included to test for that possibility. The overall reliability score across the four times points ranged from .942 to .979 for females and .946 to .972 for males. These five items from the ECR were used to model a latent construct for relationship quality.

Plan of Analysis

Data were analyzed using STATA 14.2 for missingness and descriptive statistics, while Mplus 7.3 (Muthén & Muthén, 1998) was used to estimate measurement models and structural equation models. Because some of the data were slightly skewed, the maximum likelihood estimator (MLR) was utilized, which is robust to non-normal data (Muthén & Muthén, 1998). To answer each research question, two Actor-Partner Interdependent Models (APIM, Cook & Kenny, 2005) were created. Couple and marital research has shown that when studying both partners in a relationship, the scores of one partner are correlated with their own scores and also the scores of the other partner called actor and partner effects (Kenny, 1996). Cook and Kenny (2005) suggest that when independence of the sample is assumed but the sample is in fact interdependent, the statistical results are compromised: “the test statistic (e.g., t or F) and the degrees of freedom for the test statistic are inaccurate, and its statistical significance (i.e., the p value) is biased” (p.101). Following Little’s recommendation (Little, 2013), secondary autoregressive paths (AR2) were also analyzed to account for any predictability in non-

consecutive time points. For example, analyzing the regressive path of female relationship quality at T3 and T7, excluding T5.

Conceptually, the interdependence of partner data is particularly useful in longitudinal data. Longitudinal studies observe change occurring with individuals over time, thereby excluding some potentially confounding factors (e.g., culture, demographics, etc.), where past behavior is able to predict current behavior and where actor effects are used to control for stability across time when considering partner effects (Cook & Kenny, 2005).

Additionally, this type of model, considered a cross-lag model, aims to reveal the relative position of individuals within a distribution over time, rather than examining the change of the mean over time, as a linear growth curve model would. As a preliminary study on the bidirectional nature of RQ and attachment using longitudinal data, this study is interested in the predictability of attachment and relationship quality on one another, not necessarily if attachment predicts a mean change in relationship quality, or relationship quality predicts a change in mean levels of attachment.

Results

Preliminary Analyses

To begin, I ran descriptive statistics and included attachment measures for both males and females, as well as relationship quality for both males and females, which can be found in Table 1 for the raw scores. Each wave of data showed reliability statistics for both measures to be within the acceptable range (α ranging from .83 to .97). The mean levels for both male and female attachment were relatively low across four time points, indicating that this sample of couples reported fairly secure attachment styles. The mean levels for relationship quality were slightly higher for males than for females across eight time points. Males started with $M = 5.20$

and females started with $M = 5.15$ and by the 8th time point, both males and females had decreased in their reports of relationship quality ($M = 4.80$, $M = 4.66$, males and females, respectively). This is consistent with literature that indicates a downward trend in relationship satisfaction over time (Twenge, Campbell, & Foster, 2003). Factor loadings were also examined and all items were a .4 or above for both attachment and relationship quality. Except for time 1 female attachment, item seven which had a .388 factor loading. That question was “I find it difficult to allow myself to depend on my partner”. There seems to be some support for flexibility with the factor loading scores based on sample size (Hair, Tatham, Anderson, & Black, 1998) and that a score of .30 with a sample size of around 350 is acceptable, which fits this data ($N = 335$). However, I examined the remaining time points to see if it was below .4 across time and it was not, it was only this first time point that the item loaded lower than the typical .4 cut off.

Additionally, all latent constructs were examined for measurement equivalence across all time points, which allowed for means comparison for actor effects. See Table 2 for latent means, standard deviations, and significant differences between time points.

Missing data. I also ran missing summaries and pattern analyses for each construct. Little’s missing completely at random test (MCAR, Little, 1988) indicated significant results for female attachment, meaning that the data were not missing completely at random and there are likely some patterns to the missing data. Most likely these missing data are a result of non-response to certain items in the overall study and not a result of drop out. Flourishing Families Project had a 92.6% retention rate from Wave 1 to Wave V. I ran several logistic regressions to see if depression predicted the non-response missing data for female attachment. According to the result of these tests, depression can account for some of the missing data across all four-time

points (e.g., T3 results for depression: $z = 6.02, p = .001$, the results were similar across all time points). This suggests that if a female was more depressed, she was more likely to skip the attachment questions. I also ran family income, family ethnicity, education level, number of children, and couple religious affiliation to investigate further potential reasons why there could be missing data. The results indicated that income, ethnicity, number of children, and level of education were predictive of missing data, while religious affiliation was not. Interestingly, number of children, education level and income level had a negative relationship to missing data, which indicates that as number of children in the family, level of schooling, and income increased, the trend of missing decreased (e.g., T1 number of children $z = -3.87, p < .001$, the remaining results were similar to this across all time points). Next, I examined relationship quality, which did not pass Little's MCAR test, and the same patterns for attachment seemed to follow for relationship quality. While I may not be able to account for all of the reasons females decided to skip the attachment questions, it appears that depression and some of the demographic variables may have influenced the patterns of missing data for females. MCAR test was non-significant for males, indicating that the data are missing completely at random for men. In an effort to account for any potential bias that was not caught with the MCAR test, I decided to run logistic regressions with depression for men on attachment as well, and those regressions were non-significant. These potential confounds were included in the final model to ensure that any patterns of missing data would be managed by Mplus' use of full information maximum likelihood (FIML; Cham, Reshetnyak, Rosenfeld, & Breitbart, 2017), which accounts for missing data patterns.

Measurement Model for Attachment and Relationship Quality

To verify that the latent variables for both attachment and relationship quality (RQ) fit the data well, a measurement model was tested in Mplus (Muthén & Muthén, 1998). The results indicated adequate fit ($\chi^2(df) = 1737.445(1014)$, $p = .000$, CFI = .949, RMSEA = .045)

for female attachment and male RQ, with all standardized factor loadings .40 and above. Next, the model testing male attachment and female RQ was estimated and the results also indicate an adequate model fit ($\chi^2(df) = 1598.523(1014)$, $p = .000$, CFI = .959, RMSEA = .042).. All standardized factor loadings for male attachment were .30 and above. See Tables 3-5 for correlations of latent variables.

APIM for Female Attachment and Male Relationship Quality

An APIM was used to examine the relationship between female attachment and male RQ. The first model included four time points (1, 3, 4, and 5) for female attachment and seven time points for male RQ (1, 3, 4, 5, 6, 7, 8). The model fit was adequate ($\chi^2(df) = 3145.836(1963)$, $p = .000$, CFI = .944, RMSEA = .041).

Actor effects. Actor effects for both female attachment and male RQ will be examined.

Female attachment. The results indicate that there were significant pathways for female attachment at T1 to T3 ($\beta = .601$, $p < .001$), at T3 to T4 ($\beta = .591$, $p < .001$), and T4 to T5 ($\beta = .420$, $p < .001$). Female attachment dipped slightly by T5 but remains a significant predictor across all time points. Additionally, secondary auto regressive (AR2) paths were included to estimate the predictability across more than two or three years of time. AR2 path measurements skip the consecutive time point and test subsequent time points. For example, T1 to T4 was significant ($\beta = .224$, $p < .01$) and T3 to T5 was also significant ($\beta = .361$, $p < .01$). However, the

path from T1 to T5 was not significant, indicating that there might be a threshold for how far actor effects of attachment can predict movement in the distribution for females.

Male RQ. For male RQ, the results were somewhat similar to female attachment across all time points indicating that each year significantly predicts the next year. For example, T1 to T3 ($\beta = .615, p < .001$), T3 to T4 ($\beta = .415, p < .001$), T4 to T5 ($\beta = .454, p < .001$); the remaining time points were similar in effect sizes and all were at the significance level of $p = .000$. Additional AR2 paths were included in this model to examine how far this predictability may go. T1 to T4 ($\beta = .257, p < .01$) and T1 to T5 ($\beta = .289, p < .01$) were the only significant AR2 paths.

Partner effects. Partner effects in this model looked at the extent female attachment may predict male RQ and male RQ may predict female attachment.

Female attachment to male RQ. The results of these pathways indicate that female attachment does significantly predict male RQ over time and has a negative relationship, meaning that the more insecure attachment females report, the less relationship quality males report. Female attachment at T1 regressed on male relationship quality at T3 ($\beta = -.141, p < .05$) and T3 to T4 ($\beta = -.188, p < .001$), T4 to T5 ($\beta = -.124, p < .01$) all show the same negative and significant association.

Male RQ to female attachment. T1 male relationship quality regressed on T3 female attachment was significant ($\beta = -.182, p < .01$), whereas the other time points were not (i.e., T3 to T4 and T4 to T5).

Trimmed model. Given there was a mismatch in the time points for attachment and relationship quality, a model was estimated by dropping non-congruent time points and increased length of time between time points to two years instead of one to be consistent with attachment's

missing T2 data, and taking relationship quality out one more time point to T7. Additionally, the non-significant AR2 paths were omitted. This model fit the data slightly better than the first model (χ^2 (df) = 1294.354(817), $p = .000$, CFI = .958, RMSEA = .042) and maintained all significant paths from the previous model. This model is slightly more parsimonious and therefore the final model for female attachment and male relationship quality. See Figure 1 for unstandardized results, standardized coefficients, and significance levels.

APIM for Male Attachment and Female Relationship Quality

The same process that was used for female attachment and male RQ was utilized for male attachment and female RQ. The first model included male attachment at T1, T3, T4 and T5 and female relationship quality from T1 and T3-T8. The model fit statistics showed adequate fit (χ^2 (df) = 3418.162(2483), $p = .000$, CFI = .931, RMSEA = .045)

Actor effects. Actor effects for male attachment and female RQ will be examined.

Male attachment. All the time points estimated for male attachment were significant. For example, T1 to T3 ($\beta = .599$, $p < .001$), T3 to T4 ($\beta = .536$, $p < .001$), T4 to T5 ($\beta = .495$, $p < .001$). These findings suggest that males' report of attachment predicts subsequent years of attachment. AR2 paths were included in this model as well and were significant for T1 to T4 ($\beta = .204$, $p < .01$), and T3 to T5 ($\beta = .325$, $p < .001$).

Female relationship quality. Female RQ was predictive of subsequent years of female relationship quality at every time point. T1 to T3 ($\beta = .436$, $p < .001$), T3 to T4 ($\beta = .333$, $p < .001$), T4 to T5 ($\beta = .282$, $p < .01$), T5 to T6 ($\beta = .453$, $p < .001$), T6 to T7 ($\beta = .637$, $p < .001$), and finally T7 to T8 ($\beta = .389$, $p < .001$). There were seven significant AR2 paths that indicate female relationship quality can predict farther out than one year. For example, T1 to T4 ($\beta = .376$, $p < .01$), and T4 to T8 ($\beta = .175$, $p < .05$), yet there did not seem to be a pattern to how

many years between each time point were predictive. For example, T3 was not predictive of T7—a four-year gap—but T1 was predictive of T5 ($\beta = .292, p < .01$), also a four-year gap.

Partner effects. This next section will explore the partner effects found in the analysis.

Male attachment to female RQ. While female attachment was predictive of male relationship quality at all time points, male attachment was only predictive of female relationship quality at two time points. T1 to T3 was not significant but T3 to T4 was ($\beta = -.152, p < .05$) and T4 to T5 ($\beta = -.187, p < .01$).

Female RQ to male attachment. There were no significant paths in this direction within the model.

Trimmed model. As with the female attachment and male RQ model, I ran a model that trimmed time point 4 for male attachment and time points 4, 6, and 8 for RQ to get the most parsimonious model to fit the data ($\chi^2(df) = 1257.812(817), p = .000, CFI = .963, RMSEA = .040$).

The results were slightly different for this model than they were for the trimmed model for female attachment and male RQ. Across time male attachment was significant between T1 to T3 ($\beta = .700, p < .001$) and T3 to T5 ($\beta = .697, p < .001$) became significant, when in the previous model it was not. T1 to T3 of male attachment to female RQ became significant as well ($\beta = -.192, p < .05$) with paths from T3 to T5 ($\beta = -.246, p < .01$) and T5 to T7 ($\beta = -.428, p < .01$) remaining significant, as they were in the untrimmed model. Finally, across time for female RQ, T1 to T3 ($\beta = .424, p < .001$) and T3 to T5 ($\beta = .197, p < .01$) were the only significant paths. See Figure 2 for unstandardized results, standardized coefficients, and significance levels of the final models.

Controls and Covariates

There was no substantive difference in effects when controlling for age, income, level of education, number of children in the family, and depression.

Discussion

Utilizing couples' longitudinal data, this study investigated the association between attachment and RQ by asking six specific research questions. The first four questions address actor effects, where I examined the extent to which own attachment would predict own attachment and own RQ would predict own RQ for both males and females. Attachment was positively and significantly related to own attachment at all time points for both males and females. These results are consistent with research that suggests attachment is relatively stable over time under certain circumstances (see McConnell & Moss, 2011 for comprehensive review). This finding suggests that if an individual feels securely attached to her/his partner at one point in time, s/he may be likely to report feeling securely attached at later time points. The same was true for the majority of time points examining RQ for both males and females. The one exception to this finding was female RQ between T5 and T7, there was not a statistically significant path. One possible explanation for this could be the transitional period that occurs with children during that time. Some research suggests that entry into pubertal development has a negative influence on marital quality generally (Whiteman, McHale, & Crouter, 2007), and specifically parental conflict over how to raise teenagers may spill over into the marriage, having a negative impact on relationship quality (Cui & Donnellan, 2009). For times 5 and 7, children in these families would have been in late adolescence and then possibly out of the house by the time wave 7 data were collected. It is possible that this transition influenced the female experience of relationship quality through those years. However, the secondary autoregressive

path between T3 and T7 was significant, which may indicate that females' RQ was sufficiently strong enough to predict their own RQ four years later. It may be that after the transition time had stabilized somewhat, the marital relationship was able to get back to the foundation created during T3.

The second portion of this study examined partner effects of RQ and attachment. I found that for the majority of time points, RQ did not significantly predict attachment for either males or females. There was one exception to these findings: male RQ significantly predicted female attachment from T1 to T3. Previous research examining this direction between RQ and attachment is fairly limited, but there is some evidence to suggest that RQ may predict attachment to a small degree (Benson et al., 2013; Davila, Karney, & Bradbury, 1999). For example, Davila, Karney, and Bradbury (1999) found that decreased mean level changes in male RQ were associated with increased mean level changes in female attachment insecurity. This finding may suggest that his perception of their relationship quality may influence her felt security or insecurity in some limited way.

There are some notable differences between the current study and Davila and colleagues' study (1999). Namely, this study examined couples that had been married on average 16 years, whereas Davila, Karney, and Bradbury (1999) were specifically investigating newlywed couples during the first two years of marriage. In other words, if newly married males report feeling good about the relationship, females may likely begin to feel less insecure (or more secure) in their attachment during those first two years. It would be informative to know if that significant effect carried through past those first two years of assessment, as in the current study male RQ predicting female attachment lost its significance after three years of assessment. Additionally, the current study did not look at mean level changes, but rather movement within the

distribution. Despite those differences, and overall, the current study does not provide support to those previous findings, as most paths were insignificant. The general non-significant findings of relationship quality predicting attachment could be due to the relatively stable nature of attachment in this sample over time and that regardless of one partner's report of relationship quality, the other partner's attachment may not be influenced to a significant degree.

Finally, the most notable finding was female attachment was a significant predictor of male RQ for two of the three time points and male attachment was a significant predictor of female RQ for all three time points. These findings add support to a growing body of research examining the partner effects of attachment with a variety of outcomes (Bradford, Burningham, Sandberg, & Johnson, 2016; Novak, Sandberg, & Davis, 2017). Additional studies have also found that when both partners report secure attachment, they are more likely to report higher levels of relationship quality and satisfaction, whereas if there is one insecure partner or both partners are insecurely attached, lower levels of relationship quality are reported (Kilmann, Finch, Parnell, & Downer, 2013; Strauss, Morry, & Kito, 2012). In essence, attachment may be an important variable not just for the individual but for the individual's partner as well. The results of the current study suggest if a male partner reports higher levels of insecure attachment, his female partner may likely report lower levels of relationship quality. One potential explanation for this finding could be that a female partner finds it difficult to connect to her male counterpart if he is anxious when they are apart, or if he displays worry regarding whether she loves him as much as he loves her. Another scenario could be he is demanding and/or jealous of her time away from him, which could possibly influence how she feels about the overall quality of the relationship.

The concept of internal working models (Bowlby, 1969, 1988) may be helpful in understanding these findings and explain why a secure attachment bond within a marital relationship is associated with higher levels of relationship quality and satisfaction. Internal working models assist in organizing relational information about the self and other—specifically, the primary attachment figure/married partner. One element of a secure bond between married partners is trust in the accessibility and responsiveness of each other in moments of distress and perceived danger, internally asking themselves, “will my partner be there for me?” This foundational trust in the other partner’s ability to offer support when needed may be one of the driving forces underlying the overall sense that the relationship is healthy and satisfying. Indeed, partners that consider each other a safe haven, defined as feeling cared for and supported in times of distress, report higher levels of relationship quality (Carnelley, Pietromonaco, & Jaffe, 1996; Collins & Feeney, 2000). During those times of distress, if the loved one is unavailable or unwilling to offer support and care, the partner seeking comfort may use hyperactivating or deactivating strategies to meet their own attachment needs (Seedall & Wampler, 2013). These strategies for seeking proximity or attempting to decrease proximity have been associated with insecure attachment styles and overall lower relationship quality (Mikulincer & Shaver, 2007).

Additionally, research on adult intimacy and pair bonding conducted through an attachment lens has shown that even when there is only one securely attached partner, partners are more likely to report higher relationship quality (Ben-Ari & Lavee, 2005), higher levels of emotional expression (Feeney, 2005), and less physiological reactivity during conflict (Powers, Pietromonaco, Gunlicks, & Sayer, 2006). This suggests that there is a possible overriding effect that comes as securely attached individuals may help to mollify the insecurely attached individual’s fears of abandonment (anxious) or need for distance (avoidant). While the current

study did not account for insecure attachment type (i.e., anxious or avoidant), the negative and significant relationship of attachment and relationship quality (that is, higher levels of reported insecurity in one partner, the other partner reported lower levels of relationship quality) adds support to the extant literature which suggests that one's own attachment style may influence her/his partner's overall sense of the health and quality of the relationship.

This study adds support to the Johnson and Greenman (2013) claim that attachment is an overall better predictor of relationship quality. As couples move through their lives together, with children in the home, they may experience slight fluctuations in their attachment and in their relationship quality over time. An important finding of this study is that one partner's felt sense of trust and security predicts the other partner's subjective sense of happiness and well-being within the relationship. This furthers our understanding of the importance of attachment and how it affects adult romantic relationship quality.

Clinical Implications

Despite the slight gender differences, the findings of this study point to important clinical implications regarding attachment and relationship quality for both males and females. Notably, Emotionally Focused Therapy (EFT; Johnson, 2004; Johnson & Greenberg, 1987) has emerged as an empirically validated method for conducting couple therapy, that has specific interventions intended to increase attachment security, thereby increasing RQ (Moser et al., 2016). EFT aims to excavate the underlying core attachment longings and needs each partner feels, with specific interventions coaching partners to bring those longings and needs to the surface and into their own awareness. Throughout the three-stage model, partners learn how to distill their own their attachment needs, fears, and longings (e.g., 'are you there for me?' 'will you come when I call?'), and are encouraged to share with their partner. The partner is also coached on how to be

accessible, responsive and engaged—the basic building blocks of a secure attachment (Bowlby, 1973; Johnson, 2002). As couples experience change events (i.e., moments of vulnerability where one partner is able to share difficult emotions and fears in a new and different way while the receiving partner is able to accept their partner's experience and offer reassurance for the fears just shared) the loving bond that creates a secure connection begins to form. As the couple increases in security, their positive perception of their relationship also increases.

While EFT is specifically designed around increasing secure attachment through experiential means, utilizing attachment assessments can be a tool for any therapist working with couples. There is a growing body of evidence supporting attachment behaviors as the mechanisms underlying attachment styles (Bradford et al., 2016; Sandberg, Busby, Johnson, & Yoshida, 2012). For example, the Brief Accessibility, Responsiveness, and Engagement Scale (BARE; Sandberg et al., 2012) is an assessment tool to measure not only one's own personal attachment behaviors but the perception of their partner's attachment behaviors as well. Therapists can administer this tool to couples as part of a psychological-education intervention, explaining that building skills related to accessibility, responsiveness, and engagement will increase their sense of security with one another as well as increase their level of attunement to their partner's bids for attention (Gottman & Silver, 1999). Therapists may also wish to address any incongruencies between partners' self-report and perception of partner's attachment behaviors, which may have negative outcomes for relationship quality (Novak, Sandberg, & Busby, 2018).

Additionally, other models of therapy that do not address attachment specifically, but perhaps peripherally, can also help couples increase their security with one another. For example, Acceptance and Commitment Therapy for Couples (Lev & McKay, 2017) suggests that an

important factor in helping distressed couples is the development of psychological flexibility. This type of flexibility is defined by the ability to be open and curious to new experiences and to interpret difficult experiences with an acknowledgement of the pain while remaining in an emotional state that allows change (e.g., emotional regulation). This is an apt description of a secure attachment outcome (Bowlby, 1973) and it is possible that if couples are able to develop this tool, they will experience an increase in relationship quality.

Finally, understanding the link between overall relationship quality and attachment could help community and educational programs use attachment as a foundation for explaining adult romantic love. Programs and workshops might include coaching couples in understanding their relationship patterns and corresponding attachment needs and offer specific experiential exercises that help identify attachment styles and subsequent attachment behaviors that help or hinder a secure attachment.

Limitations and Future Research

While this study is the first of its kind to examine relationship quality and attachment using longitudinal dyadic data using a variant of the Actor-Partner Interdependence Model, there are some limitations that need to be addressed. First, this study used a community sample, where couples were not clinically distressed. Therefore, a replication study with a clinical sample could yield different results that would be important to our overall understanding of the RQ and attachment relationship. Second, the sample size did not allow for a separation of insecure attachment styles into anxious-attachment and avoidant-attachment. It could be that one type of insecure attachment was a better predictor of RQ, which would be an important distinction when considering clinical interventions. Third, while longitudinal studies are crucial in understanding the long-term impact of certain variables on RQ, this type of cross-lag model does not account

for how much change occurred over the course of seven years of data collection. Future research could examine mean level changes over the course of time and determine if the changes were significant enough to merit the bold claim that decreases in attachment insecurity will increase RQ. Additionally, the variability in each wave makes interpreting meaningful differences between time points difficult because waves were not set up as a sequential cohort.

There were some unexpected non-significant results for females at year five of the data collection, when at least one of the children was turning 15 years old in the FFP. It is possible that the developmental age of children during this time was a mediating or moderating factor. Future research could investigate the impact of teenage children on adult partner attachment and adult romantic relationship quality.

Finally, this study consisted of heterosexual couples. It would be important to further the attachment and RQ knowledge base and extend it to non-heterosexual couples as well.

Conclusion

This longitudinal cross-lag model was designed to examine the bidirectional nature of relationship quality and attachment for females and males. The results support existing research that suggests adult attachment is an important predictor of relationship quality, whereas relationship quality is a poorer predictor of attachment style. This is of clinical importance when considering targeted interventions that increase attachment security, thereby increasing overall relationship quality.

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Table 1

Raw Means, Standard Deviations, and Cronbach's Alpha

| Variable | Females | | | | Males | | |
|------------------------|---------|------|------|----------|-------|------|----------|
| | Range | M | SD | α | M | SD | α |
| AttachmentT1 | 1-7 | 2.04 | 1.02 | .84 | 2.25 | 1.06 | .84 |
| AttachmentT3 | 1-7 | 2.20 | 1.17 | .83 | 2.35 | 1.07 | .85 |
| AttachmentT4 | 1-7 | 2.20 | 1.11 | .87 | 2.33 | 1.02 | .83 |
| AttachmentT5 | 1-7 | 2.3 | 1.20 | .88 | 2.32 | 1.11 | .87 |
| Relationship QualityT1 | 1-6 | 5.15 | 1.00 | .97 | 5.20 | .922 | .96 |
| Relationship QualityT2 | 1-6 | 4.89 | 1.06 | .97 | 4.97 | .973 | .96 |
| Relationship QualityT3 | 1-6 | 4.97 | 1.07 | .97 | 5.00 | .998 | .97 |
| Relationship QualityT4 | 1-6 | 4.84 | 1.08 | .97 | 4.96 | 1.00 | .97 |
| Relationship QualityT5 | 1-6 | 4.84 | 1.08 | .97 | 4.90 | 1.00 | .97 |
| Relationship QualityT6 | 1-6 | 4.84 | 1.08 | .97 | 4.90 | 1.02 | .96 |
| Relationship QualityT7 | 1-6 | 4.75 | 1.20 | .97 | 4.76 | 1.12 | .97 |
| Relationship QualityT8 | 1-6 | 4.66 | 1.19 | .97 | 4.80 | 1.07 | .97 |

Note: Raw score means are represented. Higher levels on attachment indicate more insecure attachment styles and higher levels on relationship quality indicate higher perceived quality.

Table 2

Latent Means and Standard Deviations of Attachment and Relationship Quality

| Variable | Females | | Males | |
|------------------------|------------------------|------|-------------------------|------|
| | M | SD | M | SD |
| AttachmentT1 | .00 ^{3, 4, 5} | 1 | .00 ⁵ | 1 |
| AttachmentT3 | .135 ¹ | 1.06 | .023 ⁵ | 1.06 |
| AttachmentT4 | .227 ¹ | 1.14 | .111 | 1.11 |
| AttachmentT5 | .242 ¹ | 1.2 | .162 ¹ | 1.23 |
| Relationship QualityT1 | .00 ^{3, 5, 7} | 1 | .00 ^{3, 5, 7} | 1 |
| Relationship QualityT3 | -.24 ^{1, 5} | 1.1 | -.20 ^{1, 5, 7} | 1.01 |
| Relationship QualityT5 | -.36 ^{1, 3} | 1.06 | -.22 ^{1, 3, 7} | 1.03 |
| Relationship QualityT7 | -.41 ¹ | 1.2 | -.27 ^{1, 3, 5} | 1.13 |

Note: Superscript indicates significantly different from other time points. For example, female relationship quality at T3 is significantly different from T1 and T5.

Table 3

Correlations between Attachment and Relationship Quality

| | Male RQ Female RQ | T1 | T3 | T5 | T7 |
|------------------------------|------------------------|--------|--------|--------|--------|
| Female Attachment | T1 | -0.407 | -0.402 | -0.462 | -0.458 |
| | Male Attachment | -0.663 | -0.608 | -0.599 | -0.569 |
| | T3 | -0.393 | -0.431 | -0.511 | -0.507 |
| | | -0.494 | -0.624 | -0.658 | -0.721 |
| | T5 | -0.413 | -0.424 | -0.644 | -0.611 |
| | | -0.456 | -0.555 | -0.807 | -0.712 |

Note: all results significant at $p < .001$

Table 4

Correlations for Attachment Across Time

| Attachment | T1 | T3 | T5 |
|-------------------|-----------|-----------|-----------|
| T1 | - | .749 | .700 |
| T3 | .991 | - | .927 |
| T5 | .812 | .759 | - |

Note: Female results above the diagonal, male results below. All results significant at $p < .001$

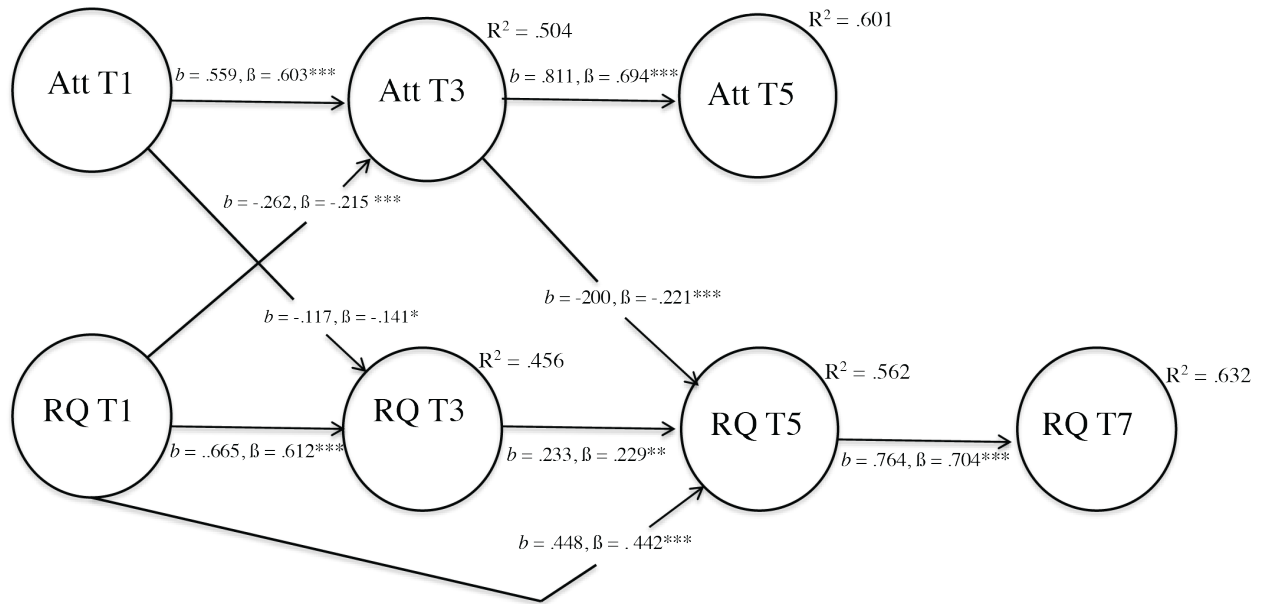
Table 5

Correlations for Relationship Quality Across Time

| Relationship Quality | T1 | T3 | T5 | T7 |
|-----------------------------|-----------|-----------|-----------|-----------|
| T1 | - | .546 | .628 | .458 |
| T3 | .588 | - | .613 | .613 |
| T5 | .612 | .583 | - | .723 |
| T7 | .525 | .584 | .822 | - |

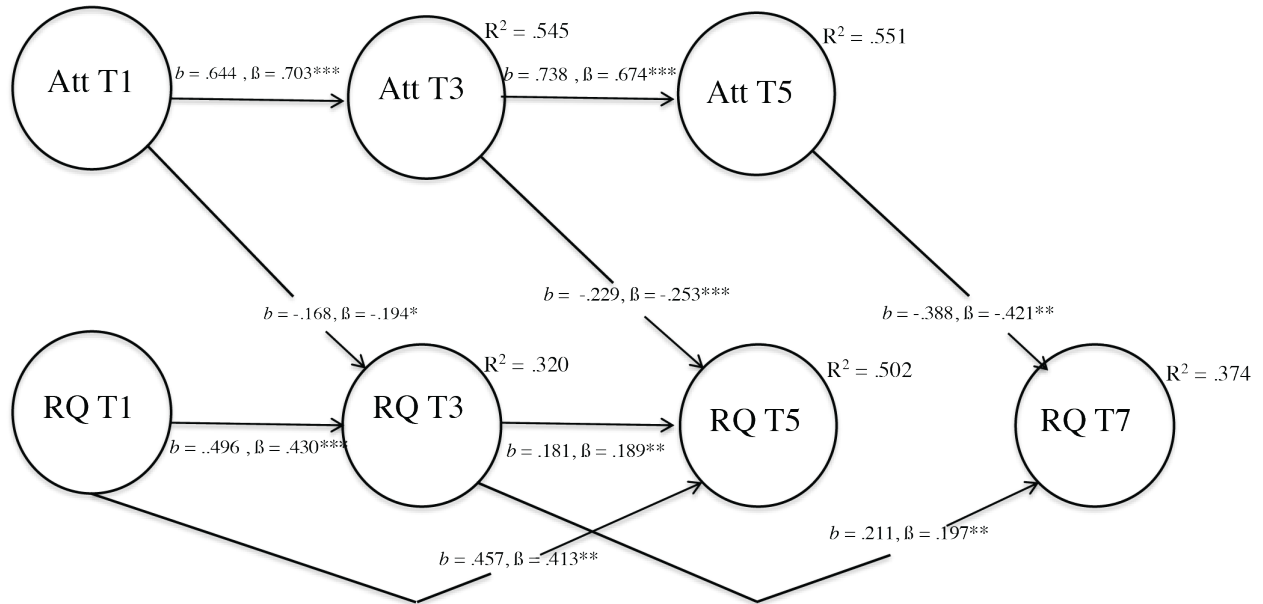
Note: Female results above the diagonal, male results below. All results significant at $p < .001$

Figure 1 . Female Attachment and Male Relationship Quality



Note: for standardized results $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

Figure 2 . Male Attachment and Female Relationship Quality



Note: for standardized results $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$