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AN INVESTIGATION OF MECHANISMS UNDERLYING THE  
ASSOCIATION BETWEEN ADULT ATTACHMENT INSECURITY AND  
ROMANTIC RELATIONSHIP DISSATISFACTION

Section A: A systematic review of mechanisms underlying the association between insecure adult attachment and romantic relationship dissatisfaction: Do they fit with the hyperactivation/deactivation hypothesis?

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## Summary

Section A provides a systematic literature review aimed to summarize mechanisms underlying the association between insecure attachment and lower relationship satisfaction. The review also investigated whether it is the use of hyperactivation strategies in anxious individuals and the use of deactivation strategies in avoidant individuals that negatively impact on their relationships. Most evidence was found for (1) experiencing more negative emotions, (2) using less positive conflict resolution, (3) being less forgiving, and (4) communicating in a less constructive way as mediators between attachment insecurity and relationship satisfaction. The hyperactivation/deactivation hypothesis was partially supported.

Section B consists of an empirical investigation of self-compassion and partner compassion as mediators between attachment insecurity and relationship quality and satisfaction in an individual sample and in a couple sample. Partner compassion mediated between attachment avoidance, but not anxiety, and relationship quality and satisfaction. Self-compassion was no mediator. However, results showed an indirect effect from attachment insecurity to relationship quality and satisfaction sequentially going through self-compassion and partner compassion. Female partner compassion also mediated between female attachment avoidance and male relationship quality. Self-compassion and especially partner compassion might play a role in relationship functioning. Interventions aiming to enhance compassion might be helpful in reducing couple distress.

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## **Section A**

**A systematic review of mechanisms underlying the association  
between insecure adult attachment and romantic relationship  
dissatisfaction:**

**Do they fit with the hyperactivation/deactivation hypothesis?**

### **Abstract**

Couple relationship distress is common and associated with mental and physical health problems. Relationship satisfaction has been linked with adult attachment indicating that more securely attached individuals are happier in their romantic relationships. Knowing more about potential mediators of this link may help clinicians to directly target the critical mediators in couple interventions. This systematic review aimed to summarize the investigated mediators of the attachment style-relationship satisfaction link.

Literature searches were conducted in PsychInfo, Medline, and Web of Science up to January 2015 using key terms in relation to attachment style, relationship satisfaction, and mediation. Twenty-four peer-reviewed published papers were identified.

The mediators with the most evidence for the attachment style-relationship satisfaction link were: (1) experiencing more negative emotions, (2) using less positive conflict resolution, (3) being less forgiving, and (4) communicating in a less constructive way. The results indicated that anxiously attached individuals use hyperactivation strategies, such as using more destructive emotional communication, and that avoidantly attached individuals use deactivation strategies, such as using more detached emotional communication, which negatively impact on their relationships. However, both groups of individuals also used other strategies.

Implications for future research and clinical practice, as well as limitations of the review are provided.

**A systematic review of mechanisms underlying the association between insecure adult attachment and romantic relationship dissatisfaction: Do they fit with the hyperactivation/deactivation hypothesis?**

Many people regard having a satisfying marriage or being in a fulfilling committed relationship as one of the most important goals in their life (Roberts & Robins, 2000). By the age of 50, more than 85% of people across almost all countries, cultures, and religions are married (United Nations Economic and Social Affairs Population Division, 2003). Although marriage rates have declined in developed countries (Organization for Economic Development and Cooperation Social Policy Division, 2010), most people who choose not to marry in Western countries enter “marriage-like” couple relationships (Western & Qu, 2008). Couples that sustain a mutually satisfying relationship benefit from better personal well-being (Amato, 2000; Proulx, Helms, & Buehler, 2007), longer life (Ross, Mirowsky, & Goldsteen, 1990), fewer health problems (Waite & Gallagher, 2000), and lower use of health services (Prigerson, Maciejewski, & Rosenheck, 2000). Stable marriages are also associated with financial prosperity (Waite & Gallagher, 2000), and more positive parenting (Krishnakumar & Buehler, 2000).

However, couple distress is common and is associated with poor mental (Whisman, 2013) and physical (Kiecolt-Glaser & Newton, 2001) health, as well as poor financial situations (Waite & Gallagher, 2000). A salient indicator of couple distress are current divorce rates of 32% (after 15 years of marriage) in England and Wales (Office for National Statistics, 2012). Common factors enhancing couple distress are infertility (Greil, 1997), health problems (Whisman, 2013), extra-relational sexual relationships (Kroeger, 2010), violence in the relationship (Alhabib, Nur, & Jones, 2010; Halford, Farrugia, Lizzio, & Wilson, 2010), as well as social and work impairment (Whisman & Uebelacker, 2006). One potentially important factor that appears to influence how satisfied people are with their

romantic relationship- and a factor that might be underlying some of the common factors mentioned above- is people's attachment style.

This section will provide a brief overview of attachment theory, as well as theoretical considerations and empirical evidence of the association between adult attachment style and romantic relationship satisfaction. This will provide the reader with the necessary background knowledge to the systematic literature review that focuses on potential mechanisms for this link.

### **Attachment style and romantic relationships**

#### **Infant attachment.**

Attachment theory was originally proposed by Bowlby (1969/1982) to describe the bond between a child and a caregiver. According to Bowlby, human beings are innately equipped with attachment and caregiving behavioral systems. During evolution becoming emotionally attached to caregivers (e.g. parents) and providing care for dependent or injured individuals (e.g. infants) enhanced the chances of survival, reproduction, and successful parenting. The function of the attachment system is to protect a person from danger by making sure that he or she maintains proximity to caring and supportive others who provide protection and support in times of adversity ("seeking a secure base"). According to Bowlby, the attachment system is most evident during infancy and childhood, but continues to be important over the lifespan.

Ainsworth, Blehar, Waters, and Wall (1978) identified three different attachment styles in children: secure, anxious-ambivalent, and avoidant. Secure children feel confident that their attachment figure will be available to meet their needs. They use the attachment figure as a safe base to explore the environment and seek the proximity of the attachment figure if they are distressed. Anxious-ambivalent children show clingy and dependent



behavior, but will reject the attachment figure when they engage in interaction. Avoidant children are very independent from their attachment figure both emotionally and physically. They do not seek contact with the attachment figure when distressed. According to Ainsworth et al. (1978), about 70% of the children are classified as secure, and about 15% each as anxious-ambivalent and avoidant.

### **Adult attachment and romantic relationships.**

It has been suggested that there is a link between the quality of infant attachment relationships and adult attachment relationships (Mikulincer & Shaver, 2007a). One of Bowlby's (1969/1982) key ideas was that our early experiences with attachment figures during times of need are cognitively encoded, processed, and stored in form of mental representations of the self and others (*attachment working models*). These attachment working models contain information about close others, such as what one thinks about the reliability and responsiveness of a relational partner, and about the self, such as what one thinks about one's own "lovability" and value to relationship partners. Representations of early attachment experiences are retained and continue to play an influential role in attachment behavior throughout the life cycle. Attachment styles are moderately stable over time (Fraley, 2002) and appear to exist in similar proportions in adulthood as in childhood (60% secure, 20% anxious-ambivalent, 20% avoidant; Hazan & Shaver, 1987).

More recently, research has shown that individual differences in adult attachment are most accurately described in terms of two independent continuous dimensions: attachment anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Attachment anxiety refers to the extent to which a person worries about being rejected, fears abandonment, and doubts his/her worth in relationships. High attachment anxiety is thought to reflect a hyperactivated attachment system resulting from a history of relatively inconsistent or overprotective caregiving (Shaver & Mikulincer, 2002). In relationships, anxiously attached individuals tend

to use *hyperactivation strategies*, such as being clingy and hypervigilant in an effort to get their attachment needs met. Anxiously attached individuals' hyperactivation strategies tend to intensify their doubts about self-worth and their sense of vulnerability to rejection and abandonment resulting in a negative model of self (Mikulincer & Shaver, 2007c). Their hyperactivation tendencies lead to complex, ambivalent appraisals of others and although anxiously attached people usually have a history of negative interactions with unreliable attachment figures, they usually still believe that if they intensify their proximity-seeking efforts, they may gain a partner's attention and protection. This leaves them with an ambivalent model of the other.

Attachment avoidance refers to the extent to which a person avoids intimacy, dislikes depending on others, and downplays the importance of relationships. Attachment avoidance is thought to reflect a deactivated attachment system resulting from a history of relatively rejecting and cold caregiving (Shaver & Mikulincer, 2002). In relationships, avoidantly attached individuals tend to use *deactivation strategies*, such as being emotionally unavailable in an effort to deny attachment needs. Avoidantly attached individuals' deactivation strategies, aim to suppress such needs, while working to convince the self and others that they are self-sufficient and invincible (Mikulincer & Shaver, 2007c). This results in a more positive model of the self. It is suggested that in avoidant individuals, deactivation strategies encourage negative views of others and preserve them in the face of disconfirming evidence leading to a negative model of the other.

Secure attachment is when people are both low in attachment anxiety and low in attachment avoidance. Mikulincer and Shaver (2007) proposed that securely attached individuals tend to have a positive attachment working model of themselves and of other people.

### **Empirical evidence for the relationship between adult attachment and relationship satisfaction.**

There is a large body of research suggesting a link between adult attachment security and the quality of couple relationships (Mikulincer & Shaver, 2007b). It has been shown that more insecurely attached people are less successful at fostering positive relationships. A recent meta-analysis based on 73 studies concluded that both anxious and avoidant attachment were detrimental to romantic relationship quality (Li & Chan, 2012). The correlation between romantic relationship quality and attachment was on average  $r = .23$  for attachment anxiety and  $r = .24$  for attachment avoidance.

The robust link between attachment security and relationship quality raises questions about the mechanisms involved in this association. What do securely attached individuals do differently than insecurely attached individuals in their romantic relationships? What mediates the link between attachment and relationship satisfaction? This question clearly has implications for interventions with couples in distress. Such couples might benefit not only from interventions directly targeting their attachment working models, but also from approaches that focus on changing mediating variables.

It has been suggested that insecure individuals might be less successful at fostering relationships, because partners high in anxious attachment are too anxious and use hyperactivation strategies, such as being clingy, hypervigilant, and sensitive to cues that their partner might not be available in times of need (Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2005).

Partners who are high in avoidant attachment might experience low relationship satisfaction because they are avoidant and use deactivation strategies, such as being emotionally unavailable, disengaging from their relationship, and rejecting intimacy and closeness (Shaver & Mikulincer, 2005).

This paper aims to provide a systematic review of the mediators between the attachment style-relationship satisfaction link. Furthermore, this paper aims to investigate how the identified mediators fit with the prediction from adult attachment theory (Mikulincer & Shaver, 2007c) that hyperactivation strategies in anxiously attached individuals and deactivation strategies in avoidantly attached individuals make them less satisfied in their relationships.

## **Methods**

### **Literature search**

Figure 1 describes the identification process of the papers for this review. A book chapter summarizing 12 studies that investigated potential mediators between adult attachment and couples' relationship satisfaction (Mikulincer & Shaver, 2007b) was used to identify studies up to the year 2004. Based on key words used in these studies, the following search syntax was created: (attachment) AND (relationship satisfaction OR couple satisfaction OR relational satisfaction OR marital adjustment OR marital relations OR marital conflict OR close relationships) AND (mediation). This syntax was used to search the databases Medline, PsychInfo, and Web of Science up to January 2015. The search delivered 85 results in Medline and Psychinfo, and 89 results in Web of Science. In addition, reference lists of identified studies were searched to find potentially appropriate studies. Twenty-four studies were identified that matched the inclusion criteria below.

### **Inclusion & exclusion criteria:**

#### **Inclusion criteria.**

- Original paper
- Included a measure of adult attachment, relationship quality, and a measure of a hypothesized mediator

- Tested a mediation model

**Exclusion criteria.**

- Review papers
- Dissertation abstracts/books/book chapters/not published in peer reviewed journals
- Not written in English

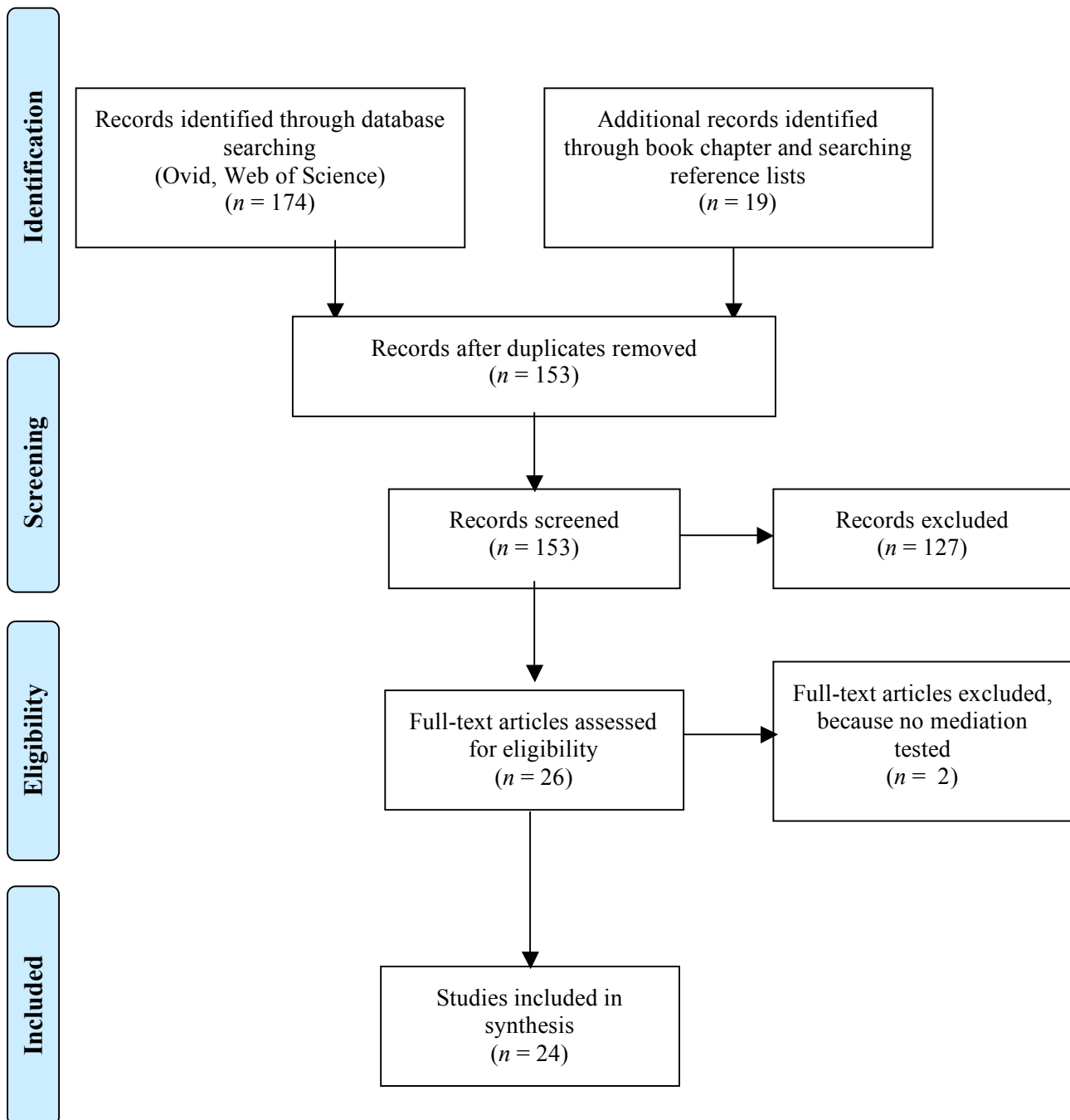


Figure 1. PRISMA Flow Diagram (based on Moher, Liberati, Tetzlaff, Altman, and The PRISMA Group, 2009)

## Results

### Study characteristics

The characteristics of the 24 included studies are summarized in Table 1. Eleven of the studies used individuals in their samples, and 14 studies used couples. For papers that provided enough information, Kappa-Squared ( $k^2$ ) was calculated as effect size (Preacher & Kelley, 2011). Kappa-Squared is defined as the ratio of the indirect effect relative to its maximum possible value in the data.

### Quality of studies

The quality of the studies was assessed using the “Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields” (Kmet, Lee, & Cook, 2004; Appendix A). The maximum score is 22. Scores for the included studies ranged from 15-21 (*Mean* = 17.08) indicating a fairly high quality.

Table 1.

*Characteristics of the included studies*

Study	Participants	Design	Tested mediators	Findings	QI (0-22)
Berant, Mikulincer, & Florian (2003)	<i>N</i> = 85 married mothers with children with congenital heart disease (Israel)	Longitudinal T1: attachment; T2 (1 year later): Coping, marital satisfaction	Ways of coping with motherhood tasks: -Problem solving -Emotion-focused -Distancing -Support seeking	-No mediation for anxiety  -Emotion-focused coping mediator for avoidance (more avoidance, more emotion-focused coping, less RS); $k^2 = 0.29$	18
Brassard, Lussier, & Shaver (2009)	<i>N</i> = 274 Couples (married or cohabiting for at least 6 months; French-speaking Canada)	Cross-sectional	Perception of conflict in the couple	<b>Actor effects:</b> -Conflict mediator for anxiety (more anxiety, more conflict, less RS); $k^2 = 0.03$ -Conflict partial mediator for avoidance (more avoidance, more conflict, less RS); $k^2 = 0.03$  <b>Partner effects:</b> -Female and male conflict mediator for female anxiety (more female anxiety, more female / male conflict, less female / male RS); $k^2 = 0.01-0.03$  -Male conflict mediator for male anxiety (more male anxiety, more male conflict, less female / male RS); $k^2 = 0.01$  -Female and male conflict mediator for male avoidance (more male avoidance, more female / male conflict, less female / male RS); $k^2 = 0.01$	21



Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
Cann, Norman, Welbourne, & Calhoun (2008)	<i>N</i> = 437 undergraduate students (251 women, 186 men involved in a serious romantic relationship; USA)	Cross-sectional	Humor styles: -Affiliative -Self-enhancing -Self-defeating -Aggressive  Conflict resolution styles: -Integrating -Obliging -Dominating -Avoiding	-Humor and conflict styles partial mediators for anxiety (more anxiety, less affiliative humor / less integrating conflict resolution style / more dominating conflict resolution style, less RS)  -Conflict styles partial mediators for avoidance (more avoidance, less obliging conflict resolution style / less integrating conflict resolution style / more dominating conflict resolution style, less RS)	18
Chung (2014)	<i>N</i> = 208 married teachers (142 women, 66 men; South Korea)	Cross-sectional	Forgiveness Rumination Empathy	-Forgiveness mediator for anxiety (more anxiety, less forgiveness, less RS); $k^2 = 0.28$  -Empathy and forgiveness partial mediators for avoidance (more avoidance, less empathy, less forgiveness, less RS); $k^2 = 0.07$ (empathy); $k^2 = 0.25$ (forgiveness)	19
Cobb, Davila, & Bradbury (2001)	<i>N</i> = 161 newlywed couples (USA)	Longitudinal; T1: attachment, partner attachment, RS1; T2 (1 year later): RS2	-Partner's perception of other partner's attachment	-Partner's perception of other partner's attachment mediator for security (more security, more positive perception of partner's attachment, more RS)	17
Davila, Bradbury, & Fincham	Study 1: <i>N</i> = 117 established married couples	Cross-sectional	Study 1: Negative affectivity	Study 1: <b>Actor effects:</b> -Male negative affectivity partial mediator for male anxiety	21

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
(1998)	(USA)  Study 2: <i>N</i> =159 newlywed couples (USA)		Study 2: Neuroticism	(more anxiety, more negative affectivity, less RS); $k^2 = 0.04$ -Female negative affectivity mediator for female avoidance (more avoidance, more negative affectivity, less RS); $k^2 = 0.03$ <b>Partner effects:</b> -Female negative affectivity (partial) mediator for male anxiety (more male anxiety, more female negative affectivity, less female RS (full) / less male RS (partial)); $k^2 = 0.01$  -Female negative affectivity mediator for male avoidance (more male avoidance, less female negative affectivity, less female / male RS); $k^2 = 0.02$  Study 2: -Male neuroticism mediator for male anxiety (more anxiety, more neuroticism, less RS) -Male neuroticism partial mediator for avoidance (more avoidance, more neuroticism, less RS) -Female neuroticism mediator for anxiety and avoidance (more anxiety / avoidance, more neuroticism, less RS)	
Feeney (1994)	<i>N</i> = 361 married couples (Australia)	Cross-sectional	Communication: -Mutuality -Coercion -Destructive process -Postconflict distress	-Male communication mediator for male anxiety (more anxiety, less mutuality / more coercion / more destructive process, less RS)  -Female communication mediator for female anxiety and avoidance (more anxiety / avoidance, less mutuality / more	16

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
Feeney (1999)	<i>N</i> = 238 married couples (Australia)	Cross-sectional	Emotional control	coercion / more destruction process / more postconflict distress, less RE) -Emotional control no mediator for anxiety	15
Feeney (2002)	<i>N</i> = 193 married couples (Australia)	Cross-sectional	Positive and negative spouse behavior (assessed with a diary)	-Male emotional control mediator for male avoidance (more male avoidance, more emotional control, less RS) No mediation effect found	16
Frei & Shaver (2002)	<i>N</i> = 319 students (92 men, 226 women, 1 unspecified; 53% involved in romantic relationship; USA)	Cross-sectional	Respect for partner	-Respect for partner mediator for anxiety (more anxiety, less respect for partner, less RS)  -Respect for partner no mediator for avoidance	15
Gallo & Smith (2001)	<i>N</i> = 57 married couples (USA)	Cross-sectional	Negative attributions of partner behavior	<b>Actor effects:</b> -Male negative attributions partial mediator for anxiety (more anxiety, more negative attributions, less RS)  -Male negative attributions mediator for male avoidance (more avoidance, more negative attributions, less RS)  <b>Partner effects:</b> -Female negative attributions (partial) mediator for male anxiety (more male anxiety, more female negative attributions, less female RS)	16

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
Guerrero, Farinelli, & McEwan (2009)	<i>N</i> = 581 couples (13% married, 87% seriously dating or engaged; USA)	Cross-sectional	-Prosocial emotional communication -Detached emotional communication -Destructive anger expression	- Prosocial emotional communication mediator for security (more security, more prosocial emotional communication, more RS); $k^2 = 0.31$  -Destructive anger mediator for preoccupation (more preoccupation, more destructive anger, less RS); $k^2 = 0.12$  -Detached communication mediator for dismissiveness (more dismissiveness, more detached communication, less RS); $k^2 = 0.11$	18
Ho, Chen, Bond, Hui, Chan, & Friedman (2012)	<i>N</i> = 367 university students (214 USA, 153 Hong Kong, involved in a romantic relationship of at least 3 months duration)	Cross-sectional	Commitment: -Personal commitment -Moral commitment -Structural commitment	-Commitment no mediator for anxiety  -Personal commitment mediator for avoidance (more avoidance, less personal commitment, less RS); $k^2 = 0.34$	18
Kachadourian, Fincham, & Davila (2004)	Study 1: <i>N</i> = 184 undergraduates (in a dating relationship for at least four months; USA)  Study 2: <i>N</i> = 96 married couples (USA)	Cross-sectional	Forgiveness	Study 1: -Forgiveness no mediator for anxiety  -Forgiveness partial mediator for avoidance (more avoidance, less forgiveness, less RS); $k^2 = 0.02$  Study 2: -Female forgiveness partial mediator for female anxiety (more anxiety, less forgiveness, less RS)  -Female forgiveness no mediator for avoidance; $k^2 = 0.02$	19

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
				-Male forgiveness partial mediator for male anxiety and male avoidance (more anxiety / avoidance, less forgiveness, less RS); $k^2 = 0.02$	
Keelan, Dion, & Dion (1998)	$N = 165$ undergraduate psychology students (112 female and 53 male, 72 female and 27 male currently in romantic relationship; Canada)	Cross-sectional	Self-disclosure: -Personalistic disclosure -Affective quality -Facilitative disclosure	-Facilitative disclosure mediator for security (more security, more facilitative disclosure, more RS)	8
Lussier, Sabourin, & Turgeon (1997)	$N = 263$ couples (French-Canadian; 172 married, 91 cohabiting)	Cross-sectional	Coping	-Coping was no mediator	18
Marchand (2004)	$N = 64$ married Caucasian couples with a child (USA)	Cross-sectional	Conflict Resolution: -Attacking behavior -Compromising behavior	-Female attacking behavior partial mediator for female anxiety (more anxiety, more attacking behavior, less RS); $k^2 = 0.03$	19
Meyers & Landsberger (2002)	$N = 73$ married women (USA)	Cross-sectional	-Psychological distress -Perceived social support	-Psychological distress mediator for security (more security, less psychological distress, more RS); $k^2 = 0.02$  -Perceived social support mediator for avoidance (more avoidance, less perceived social support, less RS); $k^2 = 0.02$	18

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
Morrison, Urquiza, & Goodlin-Jones (1997)	<i>N</i> = 385 community college students (159 male and 226 female, some married, some living together, some being together with partner for at least 30 months)	Cross-sectional	Perception of interaction in the relationship: -Affiliative interaction -Submissive interaction -Controlling interaction	-Affiliative interaction mediators for security (more security, more affiliative interactions / less controlling interactions, more RS)	13
Reizer, Possick, & Ein-Dor (2010)	<i>N</i> = 133 married couples (69 living in high risk area, 32 medium risk, and 32 low risk: Israel)	Cross-sectional	Perceived psychological distress	-Perceived psychological distress partial mediator for anxiety (more anxiety, more psychological distress, less RS); $k^2 = 0.23$  -Perceived psychological distress as mediator for avoidance, but only for couples living in high risk areas (more avoidance, more psychological distress, less RS); $k^2 = 0.20$	19
Scheeren, Veras de Andrade Viera, Ribeiro Goulart, & Wagner (2014)	<i>N</i> = 214 couples (68% married, 31.3% living together or characterizing their relationship as a stable union; Brazil)	Cross-sectional	Conflict Resolution Style: -Positive problem solving -Conflict engagement -Withdrawal -Compliance	-Male conflict resolution style mediator for anxiety (more anxiety, more conflict engagement / more withdrawal, less RS)  - Male conflict resolution style mediator for male comfort with closeness (more comfort with closeness, more positive problem solving, more RS)  - Male conflict resolution style mediator for male discomfort with closeness (more discomfort with closeness,	14

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
				<p>more conflict engagement / less positive problem solving, less RS)</p> <p>- Female conflict resolution style mediator for anxiety, difficulty in trusting and discomfort with closeness (more anxiety / difficulty trusting, discomfort with closeness, less positive problem solving / more conflict engagement / more withdrawal / more compliance, less RS)</p> <p>- Female conflict resolution style mediator for comfort with closeness (more comfort with closeness, more positive problem solving, less RS)</p>	
Sierau & Herzberg (2012)	N = 207 couples (48% married, 52% cohabiting; Germany)	Cross-sectional	<p>Conflict Resolution Styles:</p> <p>-Positive problem solving</p> <p>-Conflict engagement</p> <p>-Withdrawal</p> <p>-Compliance</p>	<p><b>Actor effects:</b></p> <p>-Conflict resolution styles mediators for anxiety (more anxiety, more conflict engagement / more withdrawal / less positive problem solving, less RS); <math>k^2 = 0.09-0.17</math></p> <p>-Conflict resolution styles partial mediator for avoidance (more avoidance, less positive problem solving / more conflict engagement, less RS); <math>k^2 = 0.04-0.15</math></p> <p><b>Partner effects:</b></p> <p>- Conflict resolution styles mediator for anxiety (more actor anxiety, more partner positive problem solving, more actor RS)</p> <p>- Conflict resolution styles partial mediators for avoidance (more actor avoidance, less actor compliance, less partner RS)</p>	18

Table 1 (continued)

Study	Participants	Design	Tested mediators	Findings	QI
Sümer & Cozzarelli (2004)	<i>N</i> = 352 students in a romantic relationship (duration 2 months to 12 years; USA)	Cross-sectional	Attribution for partner behaviors	-Partner attributions partial mediator for anxiety (more anxiety, more negative partner attributions, less RS)	18
Timm & Keiley (2011)	105 married women, 100 married men (USA)	Cross-sectional	Sexual Communication Satisfaction	-Sexual communication no mediator	18

*Note.* RS = relationship satisfaction; QI = Quality Index (0-22); actor effects = intrapersonal effects; partner effects = interpersonal effects;  $k^2$  = kappa squared (small = 0.01, medium = 0.09, and large = 0.25 effect size)



## Types of mediation models used

Figure 2 shows a statistical diagram of a simple mediation model. The model contains two consequent variables (M) and (Y) and two antecedent variables (X) and (M), with X causally influencing Y and M, and M causally influencing Y. One pathway leads from X to Y without passing through M (direct effect). The second pathway from X to Y passes from antecedent X to consequent M and then from antecedent M to consequent Y (indirect effect). M is typically called a mediator variable. A mediator represents a possible mechanism by which X exerts its effect on Y (Hayes, 2013a). Full mediation is the case when variable X no longer affects Y after M has been controlled and so path  $c'$  is zero. Partial mediation is the case when the path from X to Y is reduced in absolute size but is still different from zero after introduction of the mediator.

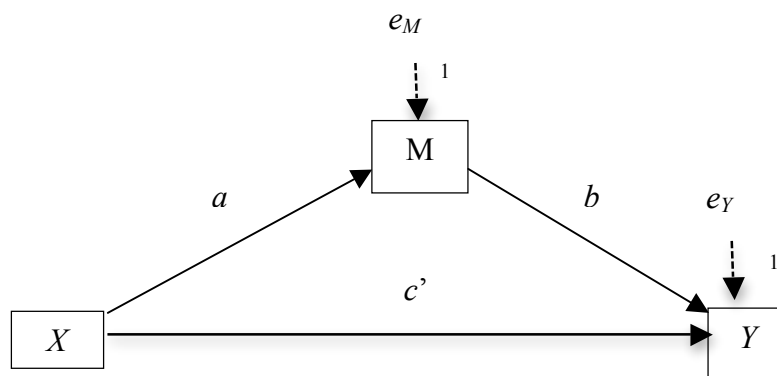


Figure 2. A statistical diagram of the simple mediation model

There are a number of ways to test for mediation, including regression-based tests, structural equation modeling, and bootstrapping (Fritz & MacKinnon, 2007). In the current review, 11 studies used regression-based tests, 10 used structural equation modeling, and one study used bootstrapping (see Appendix B). Two studies used the APIMeM model, which allows testing actor (intrapersonal), as well as partner (interpersonal) mediation effects (Ledermann, Macho, & Kenny, 2011). Fifteen of the studies used the Baron and Kenny causal

steps approach (1986), which only considers it sensible to investigate mediation if evidence of an association between X and Y has been established. Also, most studies have differentiated between full and partial mediation. Currently, there is a debate about the usefulness of these approaches to mediation (for more info, see Hayes, 2013b).

### **Adult attachment measures**

Various attachment measures were used applying two-factorial, and three-factorial dimensions of attachment. Table 2 provides an overview of the different attachment measures. Most measures had adequate to excellent reliability and validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010).

Currently, it is considered best practice to use a continuous adult attachment measure conceptualizing attachment anxiety and avoidance as dimensions, like the Experience of Close Relationships (ECR) scale (Brennan et al., 1998), rather than using paragraphs to categorize one attachment style, like Bartholomew's attachment styles measure (Fraley & Shaver, 2000). Only one study (Keelan, Dion, & Dion, 1998) asked participants to choose one attachment style, all other studies used continuous measures of attachment. However, some studies used measures that assess not only anxiety and avoidance, but use a three-dimensional approach (for example Adult Attachment Scale; AAS; Collins & Read, 1990). The use of different methods makes it more difficult to compare the results between studies.

Table 2.

*Attachment measures*

Measure	Reference	Attachment dimensions	Items	Response format	Psychometrics	Studies used
Attachment style questionnaire (ASQ)	(Feeney, Noller, & Callan, 1994)	Anxiety over relationships	15 items	5-point scale	Reliability: ++ Validity: ++	(Feeney et al., 1994) (Feeney, 1996) (Feeney, 1999) (Guerrero, Farinelli, & McEwan, 2009)
Adult attachment scale (AAS)	(Collins & Read, 1990)	Comfort with closeness Anxiety Close Depend	18 items	5-point scale	Reliability: ++ Validity: +++	(Morrison, Urquiza, & Goodlin-Jones, 1997) (Timm & Keiley, 2011) (Gallo & Smith, 2001) (Lussier, Sabourin, & Turgeon, 1997) (Davila, Bradbury, & Fincham, 1998) (Marchand, 2004) (Scheeren, Veras de Andrade Vieira, Ribeiro Goulart, & Wagner, 2014)
Adult attachment style questionnaire	(Hazan & Shaver, 1987)	Secure Avoidant Anxious-ambivalent	3 short paragraphs describing a particular attachment style	7-point scale	Reliability: ++ Validity: +	(Meyers & Landsberger, 2002)
Attachment style measure	(Bartholomew, 1990)	Secure Fearful Preoccupied Dismissing	4 short paragraphs describing a particular	Choose the paragraph that best describes	–	(Keelan et al., 1998)

Table 2 (continued)

			attachment style	your relationship style		
Attachment style scale	(Mikulincer, Florian, & Tolmacz, 1990)	Anxiety Avoidance	10 items (5 per dimension)	7-point scale	Reliability: Cronbach's alpha = 0.71 anxiety, 0.72 avoidance	(Berant, Mikulincer, & Florian, 2003)
Experience in close relationships scale (ECR)	(Brennan et al., 1998)	Anxiety Avoidance	36 items	7-point scale	Reliability: ++ Validity: +++	(Chung, 2014) (Frei & Shaver, 2002) (Ho et al., 2012) (Brassard, Lussier, & Shaver, 2009) (Reizer, Possick, & Ein-Dor, 2010) (Sierau & Herzberg, 2012) (Cann et al., 2008)
Experience in close relationships scale-revised (ECR-R)	(Fraley, Waller, & Brennan, 2000)	Anxiety Avoidance	36 items	7-point scale	Reliability: ++ Validity: +++	
Relationship scales questionnaire (RSQ)	(Griffin & Bartholomew, 1994)	Secure Fearful Preoccupied Dismissing	17 items	7-point scale	Reliability: + Validity: ++	(Sümer & Cozzarelli, 2004)

Table 2 (continued)

Relationship questionnaire (RQ)	(Bartholomew & Horowitz, 1991)	Model of self ((Secure + dismissing)- (preoccupied + fearful))	4 short paragraphs describing a particular attachment style	7-point scale	Reliability: + Validity: ++	(Kachadourian, Fincham, & Davila, 2004) (Sümer & Cozzarelli, 2004) (Cobb, Davila, & Bradbury, 2001) (Feeney, 1996) (Feeney, 1999) (Guerrero et al., 2009)
		Model of other ((Secure + preoccupied)- (dismissing and fearful))				

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*Note.* Reliability scores: (+ to ++) adequate test-retest, interrater, or interitem; one “+” for each criterion; (+++) excellent properties; Validity scores: (+) convergent with other scales; (++) other evidence of convergent, discriminant, and predictive validity; (+++) excellent properties (Ravitz et al., 2010)

### **Relationship satisfaction measures**

A variety of relationship measures were used to assess relationship satisfaction (see Table 3). The measures most often used were the Dyadic Adjustment Scale (DAS; Spanier, 1976), the Quality Marriage Index (QMI; Norton, 1983), and the Marital Adjustment Test (MAT; Locke & Wallace, 1959). These are widely used scales that have clearly shown to measure relationship satisfaction and have been able to discriminate between non-distressed couples and couples with relationship problems. Most scales are at least 20 years old.

Although this has the advantage that new study results can be compared against a wealth of existing results, the experience of relationship satisfaction in couples may have changed over time and this may have outdated the scales. Reliability and validity of most measures were good to excellent.

Table 3.

*Relationship satisfaction measures*

Measure	Reference	Dimension	Items	Response format	Psychometrics	Studies used
Dyadic adjustment scale (DAS)	(Spanier, 1976)	Global dyadic adjustment (affectional expressiveness, dyadic consensus, dyadic cohesion, marital satisfaction)	32	6-point scale	Reliability: Cronbach alpha: .92 (Graham, Liu, & Jeziorski, 2006); Validity: content, criterion, concurrent, predictive (Spanier, 1976)	(Lussier et al., 1997) (Sierau & Herzberg, 2012) (Meyers & Landsberger, 2002) (Sümer & Cozzarelli, 2004)
Dyadic adjustment scale-shortened (DAS-6)	(Sharpley & Cros, 1982)	Couple satisfaction	6	6-point scale	Reliability: Cronbach alpha: .83	(Sierau & Herzberg, 2012)
Dyadic adjustment scale-shortened (DAS-4)	(Sabourin, Valois, & Lussier, 2005)	Couple satisfaction	4	6-point scale	Reliability: Cronbach alpha: .83 women, .78 men; Validity: predictive, construct (Sabourin et al., 2005)	(Brassard et al., 2009)
Evaluating and nurturing relationship issues communication and happiness (ENRICH)	(Olson, Fournier, & Duickman, 1982)	Level of satisfaction in: communication, conflict resolution, children and marriage, sexual	50	5-point scale	Reliability: Cronbach alpha: .80; Test-retest: 0.87; Validity: concurrent, construct (Fowers & Olson, 1989)	(Berant et al., 2003)

Table 3 (continued)

Golombok Rust Inventory of marital state (GRIMS)	(Rust, Bennun, Crowe, & Golombok, 1990)	relationship, egalitarian relations) Marital relationship quality (satisfaction, communication, shared interests, trust, respect)	28	4-point scale	Reliability: Cronbach alpha: .80; Validity: content, face (Crowe & Golombok, 1986)	(Scheeren et al., 2014)
Investment model questionnaire (Satisfaction Scale)	(Rusbult, 1980)	Relationship satisfaction	4 statements plus “How happy are you in your relationship?”	9-point scale	Reliability: Cronbach alpha: .88; Validity: concurrent, predictive (Rusbult, Martz, & Agnew, 1998)	(Keelan et al., 1998)
Marital adjustment test (MAT)	(Locke & Wallace, 1959)	Marital satisfaction	15	7-point 6-point 4 point Choice responses	Reliability: .79; Validity: concurrent, discriminant (Graham, Diebels, & Barnow, 2011)	(Cobb et al., 2001) (Davila et al., 1998) (Kachadourian et al., 2004) (Reizer et al., 2010)
Marital comparison level inventory (MCLI)	(Sabatelli, 1984)	Contrast between marital experiences and marital expectations	32	7-point scale	Reliability: Cronbach alpha: .96;	(Marchand, 2004)
MSI (Global distress, sexual dissatisfaction scale)	(Snyder, 1981)	Global marital distress	43	True-false	Reliability: Cronbach alpha: .97; Validity: concurrent, discriminant, predictive	(Morrison et al., 1997)
		Sexual Dissatisfaction	29			



Table 3 (continued)

Kansas Marital Satisfaction Scale	(Schumm, Nichols, Schectman, & Grigsby, 1983)	Marital satisfaction	3	7-point scale	Reliability: Cronbach alpha: .95; Validity: discriminant, construct (Graham et al., 2011)	(Timm & Keiley, 2011)
Perceived relationship quality components inventory (PROC)	(Fletcher, Simpson, & Thomas, 2000)	Relationship quality (satisfaction, commitment, intimacy, trust, passion, love)	18		Reliability: Cronbach alpha: .92	(Kachadourian et al., 2004)
Quality marriage index (QMI)	(Norton, 1983)	Relationship satisfaction	6	7-point scale 10-point scale	Reliability: Cronbach alpha: .94; Validity: concurrent (Graham et al., 2011)	(Feeney, 1994) (Feeney, 1996) (Feeney, 1999) (Feeney, 2002) (Chung, 2014) (Sümer & Cozzarelli, 2004) (Gallo & Smith, 2001)
Quality of relationships inventory	(Pierce, Sarason, & Sarason, 1991)	Marital functioning (social support, conflict, depth)	25	4-point scale	Reliability: Cronbach alpha: .83	
Relationship assessment scale (RAS)	(Hendrick, Dicke, & Hendrick, 1998)	Relationship satisfaction	7	5-point scale	Reliability: Cronbach alpha: .87; Validity: concurrent, discriminant	(Cann et al., 2008) (Frei & Shaver, 2002) (Ho et al., 2012)
Relationship happiness scale (RHS)	(Fletcher, Fitness, & Blampied, 1990)	Love, happiness, general satisfaction, relationship	6	7-point scale	Reliability: Cronbach alpha: .86	(Sümer & Cozzarelli, 2004)

Table 3 (continued)

Relationship satisfaction scale	(Hendrick, 1988)	stability, seriousness of problem, commitment Relationship satisfaction	7	7-point scale	Reliability: Cronbach alpha: .86	(Guerrero et al., 2009)
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## Tested mediators

### **Within-partner mediation and cross-partner mediation.**

Most studies tested mediators within one partner of a couple (intrapersonal mediation). A few studies also tested mediators across partners of a couple (interpersonal mediation). The term within-partner means that all variables in the mediation model come from the same person (e.g. partner *a* attachment, partner *a* mediator, partner *a* relationship satisfaction). So even if the assessed mediator relates to behavior within the couple (e.g. couple interaction styles) rather than to the individual partner, it would still be within-partner mediation if all variables were collected from one partner. The term cross-partner mediation means that the mediation model consists of variables from both partners of the couple (e.g. partner *a* attachment, partner *b* mediator, partner *a* relationship satisfaction). Here, mediation between partners can be assessed. In this review, first all investigated within-partner mediators and then all investigated cross-partner mediators will be presented.

### **“Self mediators”, “Perception of partner mediators”, “Couple mediators”.**

A wide variety of mediators were tested in the 24 included studies. For this review, mediators were divided into three categories: (1) Self mediators: mediators related to the assessed person’s own feelings, cognitions, or behavior, (2) Perception of partner mediators: mediators related to how the assessed person perceived their partner, (3) Couple mediators: mediators related to the assessed person’s couple interaction.

This classification appeared to fit in with attachment working models (Bowlby, 1969/1982) in that “self mediators” were suggested to correspond with the attachment working model of the self, and “perception of partner mediators” were suggested to correspond with the attachment working model of others. “Couple mediators” were suggested

to relate to both since both models appear to be activated within the interaction of a couple. In the following paragraphs, the mediators will be discussed according to this classification.

### **Within-partner mediation**

Table 4 provides an overview of all investigated within-partner mediators and summarizes how the identified mediators fit in with the hyperactivation/deactivation hypothesis.

#### **Self mediators.**

##### *Emotions.*

Do more insecurely attached individuals experience and/or communicate emotions differently than more securely attached individuals, and are they therefore less satisfied in their romantic relationships?

##### *Experiencing negative emotions.*

Experiencing more negative affectivity was found to fully mediate the association between attachment anxiety and relationship satisfaction in newlyweds, and to partially mediate the association in men, but not women, who were in established marriages. For avoidance, more negative affectivity was a full mediator in women who were in established marriages, and in women who were newlywed. It was also a partial mediator for newlywed men, but it was no mediator for men in established marriages (Davila, Bradbury, & Fincham, 1998).

Reizer, Possick, and Ein-Dor (2010) divided Israeli married couples into those living in high-, medium- and low-risk areas of residence. The study showed that perceived psychological distress partially mediated the link between attachment anxiety and marital satisfaction in all couples. Moreover, perceived psychological distress mediated the link

between attachment avoidance and marital satisfaction, but only for couples who were living in high-risk areas.

One study did not find that the experience of more negative emotions was a mediator between attachment anxiety or avoidance and relationship satisfaction (Meyers & Landsberger, 2002). However, this study found that experiencing less psychological distress mediated between secure attachment and relationship satisfaction. Due to a smaller sample size ( $N = 73$ ) compared with the other studies, not finding an effect for attachment anxiety and avoidance in this study might be due to lack of statistical power.

Overall, the results suggested that there is evidence that lower attachment security is associated with the experience of more negative emotions, which are associated with lower relationship satisfaction. The hyperactivation/deactivation hypothesis would have predicted that anxious individuals experience more negative emotions as part of the hyperactivation of the attachment system, whereas avoidant individuals would try to avoid negative emotions (Mikulincer & Shaver, 2007c).

The current results showed that also individuals high in attachment avoidance experience enhanced negative emotions, illustrating how attachment avoidance might negatively affect relationships. This does not support the hypothesis that avoidant individuals use deactivation strategies (such as avoidance of emotions) and that this makes them less satisfied in intimate relationships. However, it has been suggested that under conditions of extreme, chronic stress, avoidantly attached individuals' denial of negative emotions might break down (Wijngaards-De Meij et al., 2007). In the presented studies, attachment avoidance was found as a full mediator in couples experiencing external threat and in women. Whereas it appears to make sense that couples experiencing external threat have enhanced stress levels, it remains unclear why women high in avoidance experience more negative emotions. Women might have higher stress levels than men because they have to juggle job and family

responsibilities (Rosch, 2014). More stress may explain why avoidant women were no longer able to suppress their negative emotions.

Effect sizes for the experience of more negative emotions as a mediator between attachment and relationship satisfaction were small to medium (see Table 1).

*Communicating emotions.*

Guerrero, Farinelli, and McEwan (2009) found that more prosocial emotional communication mediated the association between attachment security and relationship satisfaction. More detached communication mediated the relationship between dismissive attachment (high avoidance, low anxiety) and relationship satisfaction. More destructive anger expression mediated the association between preoccupied attachment (high anxiety, low avoidance) and relationship satisfaction. Feeney (1999) showed that, in husbands, the tendency to control emotions was a mediator between attachment avoidance and marital satisfaction. Emotional control was not a mediator for wives and was not found to mediate between attachment anxiety and relationship satisfaction.

These results, in line with the hyperactivation/deactivation hypothesis, suggested that attachment security was associated with more constructive communication of emotions, which in turn was associated with more relationship satisfaction. A more detached/suppressed communication of emotion in avoidant individuals appeared to negatively impact on their relationship satisfaction. Anxiously attached individuals appeared to use a more open expression of negative emotions, which impacted negatively on their relationship satisfaction.

The effect sizes for these effects were medium to large (see Table 1).

Table 4.

*Tested within-partner mediators between attachment style and relationship satisfaction and how they fit in with hyperactivation/deactivation*

*hypothesis ( $\checkmark$  = partial mediation,  $\checkmark$  = full mediation; 0 = no mediation)*

Within-partner mediators	ANXIETY	AVOIDANCE	SECURITY	Anxiety = hyper- activation?	Avoidance = deactivation?
<b>SELF MEDIATORS</b>					
<b>Emotions</b>					
<i>Experiencing negative emotions</i>				Yes	No
More negative affectivity	(0 <sup>b</sup> $\checkmark^a$ ) $\checkmark$	(0 <sup>a</sup> $\checkmark^b$ ) ( $\checkmark^a$ $\checkmark^b$ )			
More psychological distress	0 $\checkmark$	0 (0 $\checkmark^c$ )	$\checkmark$		
<i>Communicating emotions</i>				Yes	Yes
More prosocial emotion communication			$\checkmark$		
More detached emotion communication		$\checkmark$			
More destructive anger communication	$\checkmark$				
More emotional control	0	(0 <sup>b</sup> $\checkmark^a$ )			

Table 4 (continued)

<b>Cognitions</b>				N/A	N/A
<i>Attributions of own behavior</i>	0	0	–		
<i>Rumination</i>	0	0	–		
<b>Behaviors</b>					
<i>Coping</i>				N/A	No
Less task-focused / less problem solving	00	00	–		
More emotion-focused	00	0√	–		
More avoidance / more distancing	00	00	–		
Less support seeking	00	00	–		
<i>Conflict resolution</i>				Partially	Partially
Less positive conflict resolution (Problem solving, integrating)	(0 <sup>a</sup> √ <sup>b</sup> ) √ √	√ √ √	√		
More conflict seeking (Conflict engagement, dominating, attacking)	(√ <sup>b</sup> 0 <sup>a</sup> ) √ √ √	0 (0 <sup>b</sup> √ <sup>a</sup> ) √ √	0		
More avoidant conflict resolution	0 √ √	00 √	0		



Table 4 (continued)

(Withdrawal, avoiding)

More obliging conflict resolution (compliance, compromise, obliging)	(0 <sup>a</sup> √ <sup>b</sup> ) 000	000 √	0 <sup>a</sup> √ <sup>b</sup>		
<i>Less forgiveness</i>	0 √ √	√ √ (√ <sup>a</sup> 0 <sup>b</sup> )		No	Yes
<i>Humor style</i>				No	N/A
Less affiliative	√	0			
Self-enhancing	0	0			
Self-defeating	0	0			
<i>Self-disclosure</i>				–	–
Personalistic			0		
Affective quality			0		
More facilitative disclosure			√		
<i>Sexual communication</i>	0	0		N/A	N/A
<b>Other</b>					
<i>Less respect for partner</i>	√	0		No	N/A

Table 4 (continued)

<i>Less commitment</i>			N/A	Yes
Less personal commitment	0	√		
Moral	0	0		
Structural	0	0		
<i>Less empathy</i>	0	√	N/A	Yes
<b>PERCEPTION OF PARTNER MEDIATORS</b>				
<i>Negative attribution of partner behavior</i>	(0 <sup>b</sup> √ <sup>a</sup> ) √	(0 <sup>b</sup> √ <sup>a</sup> ) 0	No	Partially
<i>More negative partner behavior</i>	0	0	N/A	N/A
<i>Less social support</i>	0	√	N/A	Yes
<i>More negative partner attachment</i>				√
<b>COUPLE MEDIATORS</b>				
<i>Interaction</i>			N/A	N/A
More affiliative				√
Submissive				
Less controlling				√

Table 4 (continued)

			Yes	No
<i>Communication</i>				
Less mutuality	( $\sqrt{^b \sqrt{^a}}$ )	( $\sqrt{^b 0^a}$ )		
More coercion	( $\sqrt{^b \sqrt{^a}}$ )	( $\sqrt{^b 0^a}$ )		
More destructive process	( $\sqrt{^b \sqrt{^a}}$ )	( $\sqrt{^b 0^a}$ )		
More postconflict distress	( $\sqrt{^b 0^a}$ )	( $\sqrt{^b 0^a}$ )		
<i>More conflict</i>	$\sqrt{\phantom{x}}$	$\sqrt{\phantom{x}}$	Yes	No

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*Note.* <sup>a</sup> in men; <sup>b</sup> in women; <sup>c</sup> = only in couples under conditions of external threat; Results in brackets are from the same study

***Cognitions.***

Do insecurely attached individuals engage in more negative thinking than securely attached individuals and are they therefore less satisfied with their romantic relationship?

***Attributions of self-behavior.***

Sümer and Cozzarelli (2004) found that negative attributions of self-behavior did not mediate the link between attachment and relationship satisfaction. However, this result is based on a single study and more research is needed to confirm this finding.

***Rumination.***

Rumination was not found to mediate between attachment style and relationship satisfaction (Chung, 2014).

Overall, there is currently no evidence that less securely attached individuals engage in more negative thinking and therefore feel less happy in their relationships.

***Behaviors.***

Does the behavior of insecurely attached individuals differ from that of securely attached individuals and are they therefore less happy in their romantic relationships?

***Coping.***

Berant, Mikulincer, and Florian (2003) found that more emotion-focused coping was a mediator between attachment avoidance and relationship satisfaction. More emotion-focused coping was not a mediator for attachment avoidance in Lussier, Sabourin, and Turgeon's (1997) study and was not found as a mediator between attachment anxiety and relationship satisfaction in either of the studies. Both studies found that using less productive coping (task-

focused coping/problem solving and support seeking), or using more avoidant coping strategies were no mediators between attachment and relationship satisfaction.

Thus, only very limited evidence supported that using less productive coping strategies is a mechanism between attachment insecurity and negative relationship outcomes. Emotion-focused coping was found as a mediator for attachment avoidance in one of the studies. The hyperactivation/deactivation hypothesis would have predicted that avoidant individuals would rather engage in avoidant coping than in emotion-focused coping.

However, Berant et al. (2003) used a sample of mothers who had a child with a congenital heart disease. Being exposed to chronic stress, they might have not been able to use the avoidant strategies they would usually have applied and started using more emotion-focused coping. This is in line with the idea that avoidantly attached individuals are no longer able to suppress their negative emotions when they are under chronic stress (Wijngaards-De Meij et al., 2007).

#### *Conflict resolution styles.*

Out of four studies that investigated conflict resolution styles as a mediator between attachment style and relationship satisfaction (Cann, Norman, Welbourne, & Calhoun, 2008; Marchand, 2004; Scheeren, Veras de Andrade Vieira, Ribeiro Goulart, & Wagner, 2014; Sierau & Herzberg, 2012), most studies found that both, anxious and avoidant attachment was associated with the use of less positive conflict resolution strategies, which in turn was associated with less relationship satisfaction. Only in one study, the use of less positive conflict resolution was not found to be a mediator between attachment anxiety and relationship satisfaction in men (Scheeren et al.).

The majority of studies found that conflict seeking was a mediator between attachment anxiety and relationship satisfaction. However, one study found that it was only a partial mediator for women and no mediator for men (Scheeren et al., 2014). The evidence for

conflict seeking in attachment avoidance was less clear. Cann et al. (2008) found that conflict seeking fully mediated between attachment avoidance and relationship satisfaction; Sierau and Herzberg (2012) found that it partially mediated it; Scheeren et al. (2014) found that conflict seeking fully mediated it in women, but only partially in men (Scheeren et al., 2014); and Marchand (2004) did not find it as a mediator.

Although conflict seeking appeared to be somewhat more relevant for anxiously attached individuals than for avoidant individuals in romantic relationships, the results showed that avoidantly attached individuals also tended towards conflict seeking. This does not support the deactivation hypothesis. One reason for this finding might be that conflict situations go hand in hand with enhanced stress levels and that avoidantly attached individuals are therefore not able to keep up their avoidant behavior (Wijngaards-De Meij et al., 2007)

Two studies found that using more avoidant conflict resolution strategies mediated between attachment anxiety and relationship satisfaction (Scheeren et al., 2014; Sierau & Herzberg, 2012). One study did not find it as a mediator for anxiety (Cann et al., 2008). Using more avoidant conflict resolution strategies mediated between attachment avoidance and relationship satisfaction in one study (Sierau & Herzberg), and in two studies it did not (Cann et al.; Scheeren et al.). This suggested that avoiding conflicts might be more relevant as a mechanism between attachment and relationship satisfaction in anxiously attached individuals than in avoidantly attached individuals. This does not appear to support the hyperactivation/deactivation hypothesis. However, one might argue that anxious individuals want to avoid conflict as they fear rejection from others and a conflict situation might exacerbate this fear.

Hardly any evidence was found indicating that anxiously attached individuals use a more obliging conflict resolution style, which impacts negatively on their relationship functioning. Of four studies, only one found that more obliging conflict resolution mediated

between attachment anxiety and relationship satisfaction in women, but not in men (Scheeren et al. 2014). One study found less obliging conflict resolution as a full mediator (Cann et al., 2008), one study as a partial mediator (Sierau & Herzberg, 2012), and three studies found that it was no mediator (Marchand, 2004; Scheeren et al., 2014; Sierau & Herzberg, 2012). The hyperactivation/deactivation hypothesis would have predicted that anxiously attached individuals might use obliging behavior to reduce the risks of rejection from others. This was not supported by the current results. For avoidant individuals, based on the hyperactivation/deactivation hypothesis, one might argue that showing more obliging behavior is a strategy to stay independent. However, only one study supported this.

Overall, there was good evidence that the use of less positive and the use of more negative conflict resolution strategies might be a mechanism between the attachment-relationship link.

Effect sizes for conflict resolution styles were small to medium (see Table 1).

#### *Forgiveness.*

Showing less forgiveness was a mediator between anxious attachment and relationship satisfaction in two studies (Chung, 2014; Kachadourian et al., 2004). Kachadourian et al. found that it was no mediator. For attachment avoidance, showing less forgiveness was a partial mediator in all three studies, however, in one of the studies it was only a partial mediator for men and not a mediator for women (Kachadourian et al.).

Based on the hyperactivation/deactivation hypothesis, one might have expected that anxiously attached individuals would show more forgiveness due to their fear of rejection. Avoidantly attached individuals might show less forgiveness due to their tendency to detach from intimacy with others and their negative views of other people. However, the current evidence suggested that both, anxiously and avoidantly attached individuals are less forgiving in their romantic relationships, which affects their relationship satisfaction. A possible

explanation for anxiously attached individuals being less forgiving might be that they have an ambivalent rather than a positive model of the other (Mikulincer & Shaver, 2007c).

Effect sizes for forgiveness were small to large (see Table 1).

#### *Humor styles.*

Cann et al. (2008) investigated humor styles as a mediator between attachment and relationship satisfaction. Results showed that the use of less affiliative humor, which is defined as other directed positive humor, was a mediator between anxious attachment and relationship satisfaction. Humor style was not a mediator for avoidance.

Based on the hyperactivation/deactivation hypothesis, one might have hypothesized that anxiously attached individuals would show more affiliative humor to increase being linked by others. However, as mentioned above, anxiously attached individuals have an ambivalent view of other people. This might explain why they appear to use less affiliative humor. The current evidence for humor style as a mediator between attachment style and relationship satisfaction is very limited.

#### *Self-disclosure.*

Keelan, Dion, and Dion (1998) investigated self-disclosure as a mediator between attachment and relationship satisfaction. They assessed personalistic disclosure (willingness to reveal more intimate aspects of the self), affective quality (revealing positive and negative affective reactions), and facilitative disclosure (ability to elicit disclosure from others) in a behavioral task that was videotaped. Only facilitative disclosure mediated the relationship between attachment style (secure, insecure) and relationship quality.

The results suggested that more securely attached individuals are better able to elicit disclosure from others, which enhances relationship satisfaction. As this study did not test attachment anxiety and avoidance, this result cannot be interpreted in terms of the hyperactivation/deactivation hypothesis.



*Sexual communication.*

One study investigated sexual communication as a mediator between attachment and relationship satisfaction (Timm & Keiley, 2011). The study did not find that sexual communication mediated between attachment style and marital satisfaction.

*Other.*

Are there any other differences between insecurely and securely attached individuals that might explain why the former are less successful at fostering positive relationships?

*Respect for partner.*

Frei and Shaver (2002) investigated whether respect for the partner mediated between attachment style and relationship satisfaction. Their results indicated that showing less respect did mediate the link between attachment anxiety and relationship satisfaction, but not between attachment avoidance and relationship satisfaction.

Although the hyperactivation/deactivation hypothesis might predict that fear of abandonment would motivate anxiously attached individuals to show more respect towards their partners, the study results suggested otherwise. An ambivalent model of the other (Mikulincer & Shaver, 2007c) might explain why anxiously attached individuals respect their partners less. Based on their negative view of the other (Mikulincer & Shaver, 2007c), it would have been expected that showing less respect would mediate between attachment avoidance and relationship satisfaction. However, the current study did not support this.

*Commitment.*

Ho et al. (2012) investigated less commitment as a mediator between attachment style and relationship satisfaction. In line with predictions based on the hyperactivation/deactivation hypothesis, the researchers found that showing less personal

commitment mediated the relationship between attachment avoidance and relationship satisfaction, but not between anxious attachment and relationship satisfaction.

The effect size for personal commitment was large (see Table 1).

#### *Empathy.*

Chung (2014) examined empathy as a potential mediator between attachment and relationship satisfaction. The study found that less empathy partially mediated the link between avoidant attachment and relationship satisfaction. No mediation effect was found for attachment anxiety. These results are in line with predictions from the hyperactivation/deactivation hypothesis and indicated that avoidant individuals tend to experience less empathy and perceive their relationship as less satisfying.

The effect size for empathy was small (see Table 1).

#### **Perception of partner mediators.**

Do insecurely attached individuals perceive their partners more negatively than securely attached individuals and do they therefore feel less happy in their relationships?

#### *Negative attribution of partner behavior.*

Two studies have investigated negative attributions of partner behavior as mediators between attachment style and relationship satisfaction (Gallo & Smith, 2001; Sümer & Cozzarelli, 2004). More negative partner attribution partially mediated between attachment anxiety and relationship satisfaction in both studies. However, Gallo and Smith (2001) only found a partial mediation for men, not for women. A full mediation in avoidantly attached men only indicated that they had more negative attributions about their partners, and were in turn less satisfied in their relationship (Gallo & Smith, 2001). No mediation effect was found for avoidant women. Sümer and Cozzarelli found no mediation effect for avoidantly attached individuals at all.

These results suggested that negative partner attributions might help to explain to some extent the mechanisms between attachment style and relationship satisfactions in both anxiously and avoidantly attached individuals. Although the hyperactivation/deactivation hypothesis would likely predict negative partner attribution to be more relevant for avoidant individuals due to their negative view of the other, the current evidence did not support this. Yet, this is in line with an ambivalent rather than positive view of the other in anxiously attached individuals (Mikulincer & Shaver, 2007c).

The effect size for partner attributions in Sümer and Cozzarelli (2004) was large (see Table 1).

#### *Partner behavior.*

One study assessed partner behavior as a mediator between attachment style and relationship satisfaction. Feeney (2002) asked couples to assess their partner's positive and negative behaviors with a checklist. The reported behavior was not found to mediate the relationship between attachment style and marital satisfaction.

#### *Social support.*

Meyers and Landsberger (2002) examined perceived social support as a mediator between attachment and relationship satisfaction. The study found that less perceived social support mediated the relationship between avoidant attachment and marital satisfaction. No mediation was found for attachment anxiety.

Hypothesizing that avoidantly attached individuals get less social support, because they seek less support, this result would align with the deactivation hypothesis. An inclination towards demonstrating their independence may backfire when avoidantly attached individuals need, but gain no access to social support.

The effect size for social support was small (see Table 1).

*Perception of partner's attachment.*

Cobb, Davila, and Bradbury (2001) found that a more positive perception of partner's attachment security mediated between attachment security and relationship satisfaction. This indicated that more secure individuals see their partners in a more favorable light and this in turn makes them happier with their relationship. This appears to be in line with secure individuals having a more positive view of others (Mikulincer & Shaver, 2007c). As this study did not test attachment anxiety and avoidance, this result cannot be interpreted in terms of the hyperactivation/deactivation hypothesis.

**Couple mediators.**

Do insecurely attached individuals perceive their couple interactions as more negative, and do they therefore feel less happy in their relationships?

Morrison, Urquiza, and Goodlin-Jones (1997) examined the perception of couple interactions (affiliative, submissive, controlling). They found that more affiliative and less controlling interactions mediated the relationship between attachment security and relationship distress. Submissive interactions were not found to be mediators.

Feeney (1994) assessed communication patterns (mutuality, coercion, destructive process, and postconflict distress). In wives, all communication patterns fully mediated the relationship between both attachment anxiety and avoidance, and marital satisfaction. In husbands, less mutuality, more coercion, and more destructive process mediated the link between attachment anxiety and marital satisfaction. No mediation was found for avoidance. This indicated that highly anxiously attached individuals in couple relationships featuring less productive communication, felt less happy in their relationship. For avoidance, more problematic communication was only a mediator in women, but not in men. This might indicate that, as shown beforehand, women might be less able to keep to their avoidant strategies

as they report more chronic stress levels than men and start engaging in behavior that looks more like hyperactivating behavior (Rosch, 2014).

Brassard, Lussier, and Shaver (2009) tested whether the perception of conflict in a relationship mediated between attachment and relationship satisfaction. Perception of more conflict mediated between attachment anxiety and relationship satisfaction, and partially mediated between attachment avoidance and relationship satisfaction. This indicated that both, anxiously and avoidantly attached individuals, perceived more conflict in their relationships, and were less happy with them. Based on the deactivation hypothesis, one might have assumed that avoidantly individuals tend to avoid conflict. However, attributing the causes of conflict in couples is difficult. Attempts to avoid conflict by highly avoidantly attached individuals may fail due to a conflict seeking partner.

### **Cross-partner mediation**

When investigating cross-partner mediation, the following indirect effects are possible: 1) partner *a* attachment, partner *a* mediator, partner *b* relationship satisfaction (and vice versa), 2) partner *a* attachment, partner *b* mediator, partner *a* relationship satisfaction (and vice versa), 3) partner *a* attachment, partner *b* mediator, partner *b* relationship satisfaction (and vice versa). The first indirect effect appears to be interesting when examining the hyperactivation/deactivation hypothesis as it appears to be able to answer the question whether insecurely attached individuals engage in destructive behavior that negatively affects their partner's relationship satisfaction. For the second and third indirect effect, the hyperactivation/deactivation hypothesis does not have any clear predictions.

### **Self-mediators.**

#### ***Emotions.***

#### ***Experiencing negative emotions.***

Davila et al. (1998) showed that female negative affectivity mediated between both male attachment avoidance and male attachment anxiety, and both male and female marital satisfaction. This indicated that higher male attachment anxiety was associated with higher female negative affectivity, which was associated with lower female and male relationship satisfaction. Unexpectedly, higher male attachment avoidance was associated with lower female negative affectivity, which was associated with lower female and male relationship satisfaction.

The authors suggested that having a male partner who is low in attachment avoidance might allow women to experience, and possibly express a wider range of emotions. Alternatively, women may experience their male partner's comfort with closeness as an indicator of anxiety about abandonment, which, in turn, might induce female negative affect. Husband's negative affectivity was not found as an interpersonal mediator.

Cross-partner mediation effects were found for female negative affectivity between male attachment style and female and male satisfaction. However, there were no cross-partner mediation effects for male negative affectivity. This might imply that female negative affectivity was more affected by male attachment style than male negative affectivity was by female attachment style. It also indicated that female negative affectivity influenced both female and male relationship satisfaction. It might be hypothesized that women are more focused on maintaining a well-functioning close relationship than men are (Rosch, 2014). This may make women more affected by insecure attachment of their partners. Their negative affectivity might also have more impact on the relationship functioning of both partners.

### ***Behavior.***

#### *Conflict resolution style.*

Sierau and Herzberg (2012) showed a cross-partner mediation for positive problem solving between anxiety and relationship satisfaction. This suggested that more attachment

anxiety of partner *a* predicted more positive problem solving behavior of partner *b*, which in turn predicted more relationship satisfaction of partner *a* (and vice versa).

This effect might be interpreted as a compensation effect. The partner of a highly anxiously attached individual might compensate for reduced problem solving strategies used by the anxiously attached partner and therefore enhance the anxiously attached partner's relationship satisfaction.

The results also showed a cross-partner mediation for compliance between attachment avoidance and relationship satisfaction. This meant that more avoidance of partner *a* predicted a less compliant conflict resolution style of partner *a*, which predicted less relationship satisfaction of partner *b* (and vice versa). This provided some evidence for the deactivation hypothesis in that avoidantly attached individuals appeared to use less compliant conflict resolution strategies, which was associated with less relationship satisfaction reported by their partners.

### ***Cognitions.***

#### *Negative partner attributions.*

Gallo and Smith (2001) found that female negative partner attributions mediated the relationship between male anxiety and female relationship satisfaction. No cross-partner mediations were found for male negative partner attributions, or for attachment avoidance. This indicated that female, but not male negative partner attributions were associated with spouses' anxious attachment. This is in line with the idea that women do not perceive male fear of abandonment as a positive trait, maybe because it is not considered as male behavior (Feeney, 1994).

#### ***Couple mediators.***

##### *Perception of conflict.*

Brassard et al. (2009) found the following cross-partner effects for attachment anxiety: More female perception of conflict mediated the association between female attachment anxiety and male relationship satisfaction, and more male perception of conflict mediated between male attachment anxiety and female relationship satisfaction. Thus, individuals high in attachment anxiety appeared to perceive their relationships as more conflictual. This was associated with lower partner reported relationship satisfaction.

It might be hypothesized that anxiously attached individuals perceive more conflict in relationships because they hope for minimal distance between themselves and their partner (hyperactivation), so any type of difference between them and a partner might be perceived as a problem. This again might impact on relationship satisfaction of the partner.

Increased male perception of conflict further mediated the association between female attachment anxiety and male and female relationship satisfaction.

For attachment avoidance, results suggested that more female perception of conflict mediated between male attachment avoidance and male and female relationship satisfaction. More male perception of conflict also mediated between male attachment avoidance and female relationship satisfaction. This did not appear to support the deactivation hypothesis, as one might have assumed that avoidant individuals would perceive less conflict in a relationship due to their tendency to detach themselves from the relationship difficulties.

Overall, this study indicated that perceived conflict has cross-spouse effects for anxiety and avoidance suggesting that in couples, lower attachment security of both partners can influence both partners' perception of conflict, which again can influence both partners' relationship satisfaction.



### Discussion

The present review examined mechanisms of the inverse association between insecure adult attachment and relationship satisfaction. It has been proposed that anxiously attached individuals are less successful at fostering positive relationships, because they try to minimize the distance to their partner by using hyperactivation strategies, like being clingy or controlling (Mikulincer & Shaver, 2007c). Avoidantly attached individuals, on the other hand, try to inhibit their need for support and tend to independently deal with distress by employing deactivation strategies, such as being emotionally unavailable. Both strategies may affect relationship functioning negatively. The present study investigated whether the identified mediators between attachment dimensions and relationship satisfaction supported this hypothesis. Mediators were investigated within-partners and across-partners.

Mediators supported by the strongest evidence were: experiencing more negative emotions, using less positive conflict resolution styles, being less forgiving, and communicating less constructively. Effect sizes for these effects were mostly small to medium.

Two studies examined the use of coping strategies, but surprisingly neither one provided sufficient evidence for coping as a mediator between attachment style and relationship satisfaction. Theoretically, one might expect an individual who did not experience a “secure base” to find dealing with adversity as an adult difficult with negative effects on relationship functioning. An explanation for the absent effect might be that the relevant types of coping styles have not yet been investigated.

A potential mediator that focuses on how people relate to themselves when they are distressed is self-compassion (Neff, 2003). As self-compassion has been linked with attachment security and relationship satisfaction, self-compassion might be a mediator between attachment style and relationship satisfaction (Neff & Beretvas, 2013).

**Are hyperactivation strategies mediators between attachment anxiety and relationship satisfaction?**

About half of the identified mediators between attachment anxiety and relationship satisfaction appeared to fit a description of hyperactivation strategies: highly anxious individuals experienced more negative emotions, communicated negative emotions in a more destructive way, used more controlling and negative communication strategies, and experienced and sought out more conflict in relationships. These strategies could be interpreted as unhelpful attempts to elicit partner's involvement and care.

However, the other half of the identified mediators did not necessarily align with the proposition that anxiously attached individuals use strategies that aim to encourage their partners to enhance commitment in their relationship. These mediators included: less forgiveness, less respect for the partner, more negative partner attributions, and the use of less affiliative humor. However, results suggested that these mediators do fit in with the idea that anxiously attached individuals have an ambivalent model of other people and are in a constant battle between sustaining hope for love and protection, and doubts about their ability to attain them (Mikulincer & Shaver, 2007c).

Mikulincer & Shaver (2007c) proposed that using hyperactivation strategies enhances a more negative view of others, because: (1) They intensify fears of rejection and abandonment, and make people more vigilant and sensitive about relationship partners' signals of unavailability, or criticism; (2) They involve ruminations about real or imagined signs of a partner's lack of immediate responsiveness. The ruminations heighten the cognitive availability of negative views of a partner; (3) They increase the desire for close proximity to and fusion with relationship partners, which in turn encourage anxious people to project their negative self-views onto relationship partners. So, it may be that the use of hyperactivation strategies strengthens a more negative/ambivalent view of others, which might explain why

mediators associated with a more negative view of others emerged as mechanisms between attachment anxiety and relationship satisfaction.

In summary, highly anxious individuals appear to use different types of strategies: hyperactivation strategies that aim to enhance involvement of the partner, and strategies associated with a more negative view of the partner. Both strategies appear to negatively impact on their relationship functioning.

### **Are deactivation strategies mediators of the avoidance-relationship satisfaction link?**

About half of the identified mediators fitted with the idea that highly avoidant individuals use deactivation strategies that negatively impact on their relationship functioning. These mediators were: more detached emotion communication, less forgiveness, less commitment, less empathy, less available social support, and less compliance. However, there were also mediators that did not fit in with the deactivation hypothesis. The following mediators were identified: experiencing more negative emotions, using more emotion-focused coping, more conflict, and more controlling and distressing communication.

It has been hypothesized that avoidant individuals' attempts to deny their attachment needs and to suppress negative emotions may break down under conditions of chronic stress (Wijngaards-De Meij et al., 2007). This might explain why avoidant individuals also use more emotion-focused strategies that look more like hyperactivation strategies when in a stressful couple relationship.

### **Clinical implications**

During clinical interventions of couples in distress, understanding and directly targeting the mechanisms operating between attachment style and relationship satisfaction may benefit treatment outcomes, next or in addition to focusing on supporting clients in becoming less anxious about abandonment or more comfortable with intimacy.

Whereas mainly anxious individuals use hyperactivation strategies during which they enhance their proximity-seeking efforts, avoidant individuals might also show similar strategies, particularly if they are distressed. Psychoeducation could be used to discuss the function of the various strategies clients use to increase their partner's involvement or to distance themselves from attachment needs and how this might impact on their relationship functioning.

The cross-partner mediations showed that lower attachment security of one partner does not always lead to less functional behavior of the other partner, but sometimes also to more productive partner behavior, which can be described as a compensation process. Whereas in the short term, compensation might be helpful to reduce stress levels in a couple, it might have consequences for the compensating partner, who might become fatigued eventually. This should be kept in mind when treating couples.

Future research might want to investigate whether couple interventions that take the mechanisms between attachment style and relationship satisfaction into account are more helpful in reducing couples' distress, than interventions mainly targeting attachment working models.

### **Limitations and future research**

Some limitations of this review are: Most studies have used a cross-sectional design, which makes it more difficult to draw conclusions on causal relations between the variables. For example, negative behavior might follow as a result of a relationship breakdown, instead of causing a relationship conflict. It would be helpful to investigate the mechanisms between attachment style and relationship satisfaction in longitudinal or experimental studies.

Most studies only included self-report measures. Although psychometric properties of these measures were usually good, the study results might be affected by response biases. Studies including more objective measures, such as observations, would be helpful.

The majority of studies have used the Baron and Kenny (1986) mediation approach. This approach needs large sample sizes to detect mediation effects and this might overall have led to an underestimation of mediation effects. Future studies might want to investigate mediators of the attachment-satisfaction link using approaches that have more statistical power, such as bootstrapping (Fritz & MacKinnon, 2007).

All studies included in this review used heterosexual couples and the majority of participants reported a White Ethnicity. Therefore, the results cannot be generalized to other groups. Although, attachment theory would predict similar processes for heterosexual and homosexual couples (Mohr, Selterman, & Fassinger, 2013), it would be interesting to include more heterogeneous samples in future studies.

Nearly all studies in this review have focused on within-partner mediation and have looked at “self-mediators” (mediators related to the assessed person). However, couple relationships cannot be solely understood in terms of individual level factors (Molero, Shaver, Ferrer, Cuadrado, & Alonso-Arbiol, 2011). Future studies should investigate mediators between attachment style and relationship satisfaction using a more dyadic approach.

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## **Section B**

**Pathways between adult attachment and romantic relationship  
quality and satisfaction: The mediating roles of partner  
compassion and self-compassion**

### **Abstract**

Couple distress is common and associated with mental and physical health difficulties. Adult attachment insecurity has been associated with couple distress, but the mechanisms of this association need further investigation. This study investigated whether self-compassion and partner compassion mediated this association. Three-hundred-forty-two individuals and 75 couples completed an online questionnaire assessing attachment anxiety and avoidance, self- and partner compassion, and relationship quality and satisfaction. Partner compassion mediated the association between attachment avoidance and relationship quality and satisfaction. Self-compassion did not emerge as a direct mediator, but mediated between attachment insecurity and relationship measures through partner compassion. Self-compassion and partner compassion might play a role in relationship functioning. Interventions aiming to enhance compassion might be helpful in reducing couple distress.

Key words: Adult attachment, self-compassion, partner compassion, romantic relationships, compassion-focused therapy

**Pathways between adult attachment and romantic relationship quality and satisfaction:****The mediating roles of partner compassion and self-compassion**

Having a satisfying marriage appears to be one of the most important goals in life for many people (Roberts & Robins, 2000). However, couple distress is common and is associated with mental (Whisman, 2013) and physical health problems (Kiecolt-Glaser & Newton, 2001). A salient indicator of couple distress is a divorce rate of 34% in England and Wales (Office for National Statistics, 2012). Factors that have been associated with couple distress are, for example, extra-relational sexual relationships (Kroegeer, 2010), violence in the relationship (Alhabib, Nur, & Jones, 2010; Halford, Farrugia, Lizzio, & Wilson, 2010), and social and work impairment (Whisman & Uebelacker, 2006).

**Attachment security and dyadic relationships**

Another well-researched and common factor that has been linked with relationship satisfaction is adult attachment (Mikulincer & Shaver, 2007a). Attachment theory was originally proposed to describe the bond between a child and a caregiver (Bowlby, 1969/1982). During evolution becoming emotionally attached to caregivers (e.g. parents) and providing care for dependent or injured individuals (e.g. infants) enhanced the chances of survival, reproduction, and successful parenting. The function of the attachment system is to protect a person from danger by making sure that he or she maintains proximity to caring and supportive others, who provide protection and support in times of adversity (“seeking a secure base”). Bowlby proposed that the attachment system is not only relevant for infants, but is active and influential “from the cradle to the grave” (Bowlby, 1979, p. 29). He suggested that our early experiences with attachment figures during times of need are stored in the form of mental representations of the self and others (so called “attachment working models”). It has been shown that attachment style is relatively stable over time (Fraley, 2002). Based on this, it was suggested that insecure attachment, indicated by high attachment anxiety and / or high

attachment avoidance, is also related to difficulties in adult romantic relationships (Mikulincer & Shaver, 2007a).

High attachment anxiety is characterized by fear of rejection and abandonment, concern about intimate relationships, and negative feelings about the self. People high in attachment anxiety, in an effort to find support and relief, tend to use hyperactivation strategies, which often involve demanding, clinging, and claiming behavior (Mikulincer & Shaver, 2007a).

Attachment avoidance reflects the tendency to feel uncomfortable with, and to avoid, intimacy and closeness. People high in attachment avoidance, in an effort to deny attachment needs, tend to use deactivation strategies, such as being emotionally unavailable, as well as asserting their own autonomy, independence, and strength (Mikulincer & Shaver, 2007).

Extensive research evidence has shown that both attachment anxiety and attachment avoidance are associated with lower quality of couple relationships (e.g. Li & Chan, 2012). In their meta-analysis based on 73 studies an average correlation of  $r = .23$  between romantic relationship quality and attachment anxiety and an average correlation of  $r = .24$  between romantic relationship quality and attachment avoidance was found.

The association between attachment and relationship quality raises questions about the mechanisms involved in this link. What is it that insecurely attached individuals do differently than securely attached individuals in their romantic relationships? Previous research has investigated this question and has found strong evidence for the following mechanisms of the attachment-relationship satisfaction link: experiencing more negative emotions (Cann, Norman, & Welbourne, 2008; Davila, Bradbury, & Fincham, 1998; Meyers & Landsberger, 2002; Reizer, Possick, & Ein-Dor, 2010); using less positive conflict resolution (Cann et al., 2008; Marchand, 2004; Scheeren, Veras de Andrade Vieira, Ribeiro Goulart, & Wagner, 2014; Sierau & Herzberg, 2012); being less forgiving (Chung, 2014; Kachadourian, Fincham, & Davila, 2004); and communicating less constructively (Feeney, 1994; Morrison, Urquiza,

& Goodlin-Jones, 1997). Experiencing negative emotions (Davila et al., 1998) and using less positive conflict resolution (Sierau & Herzberg, 2012) were also found to mediate between partners in a couple (interpersonally), not only within partners (intrapersonally).

### **Attachment security and compassion for self and others**

If we assume that our early interactions form attachment working models that provide mental representations of how people think and feel about themselves and other people, it would make sense if attachment working models also influenced how compassionately people treat themselves and other people, such as their partner.

Gilbert (2010) defined compassion as the motivation to engage with and be sensitive to suffering, the ability to be emotionally moved by what one attends to or experiences, as well as the display of distress tolerance, empathy, and non-judgment.

Neff (2003) defined self-compassion as consisting of three main components: self-kindness, common humanity, and mindfulness. Self-kindness stands in contrast to a self-critical approach, in which one judges or blames oneself for life difficulties. Common humanity relates to perceiving suffering as a shared human experience rather than focusing on one's separate, individual self, and mindfulness relates to a 'mindful' response to suffering, whereby one neither suppresses nor ruminates about difficult emotions (Tirch, 2010). These three dimensions cannot only be applied to self-compassion, but also to compassion for others (Pommier, 2011) indicating a kind rather than critical approach to others, as well as perceiving others' suffering as part of the human suffering, and responding mindfully to others' distress.

A secure attachment between children and their parents forms the basis for early warmth, affiliation and emotional soothing (Gilbert, 2014). Attachment loss impacts on these emotion systems and reduces capacities for compassion (Gillath, Shaver, & Mikulincer, 2005). Thus, the early experience of another human as loving, being available, and

trustworthy might come to influence our ways of engaging with others and ourselves in a compassionate way.

Highly anxious individuals have received inconsistent parenting and, as a result, are more likely to develop a negative view of the self (Pietromonaco & Feldman Barrett, 2000), to be self-critical (Cantazo & Wei, 2010), to have a strong need for validation from others (Wei, Mallinckrodt, Larson, & Zakalik, 2005), and to exaggerate their own distress (Mikulincer, Shaver, & Pereg, 2003). These factors might make it less likely for them to be compassionate to themselves.

For attachment avoidance, the association with self-compassion is more complex. High attachment avoidance can be associated with a negative or a positive view of the self (Pietromonaco & Feldman Barrett, 2000). However, it has been suggested that their positive view of the self is qualitatively different from the positive view of securely attached individuals (Mikulincer & Shaver, 2007b). Highly avoidant individuals might report a high level of self-compassion due to their defensive denial or their effort to hide their insecurity. Alternatively, they might report low levels of self-compassion due to their survival tool of constantly relying on themselves and setting up high standards for themselves (Wei, Liao, Ku, & Shaffer, 2011). Studies have shown that both attachment anxiety and attachment avoidance are linked with self-compassion, although the former association is supported by stronger evidence (Neff & McGehee, 2009; Wei et al., 2011).

Drawing conclusions about causality is difficult because most studies have used cross-sectional designs to study attachment and self-compassion. A recent study tried to shed more light on this by using a design whereby attachment security was experimentally enhanced and its outcome on self-compassion was observed (Pepping, Davis, O'Donovan, & Pal, 2014). It was shown that enhancing attachment security enhanced self-compassion.

Attachment anxiety is associated with an ambivalent model of the other: highly anxious individuals hope to receive love and support from others, but they also fear that they

will not get it (Mikulincer & Shaver, 2007b). They might remain compassionate towards others until their perceived attachment needs are no longer met.

Attachment avoidance is associated with a negative view of others (Mikulincer & Shaver, 2007b) and is therefore assumed to lead to low partner compassion. Studies have shown that dispositional and experimentally induced attachment security promote compassionate feelings towards others (Mikulincer & Shaver, 2005). Also, a recent study showed a link between insecure attachment and compassion fatigue in volunteers working with traumatized individuals (Pardess, Mikulincer, Dekel, & Shaver, 2013). The study also found that when attachment security was experimentally enhanced compassion fatigue reduced.

Thus, attachment security associated with positive relationship functioning has been linked theoretically and empirically with self-compassion and compassion for others.

### **Self-compassion, compassion for others and dyadic relationship functioning**

According to Gilbert (2010) and Neff (2003), several arguments can be used to explain why self-compassion and compassion for others might facilitate relationship functioning. Firstly, individuals high in self-compassion might be more emotionally resilient and might therefore respond more constructively to conflict in relationships. Secondly, self-compassionate individuals might be able to meet their own needs for comfort, kindness, and belonging and might therefore allow their partners more freedom in their relationship. Thirdly, the acceptance of the imperfect human experience might enhance mutual acceptance in romantic relationships. Consistent with this, Neff and Beretvas (2013) showed that self-compassionate individuals displayed more positive relationship behaviors than those who were less self-compassionate. This association stayed significant also after controlling for attachment.



Compassion for others (specifically the partner) might also facilitate relationship functioning through a greater acceptance of the other and therefore reduced conflict behavior, as well as more supportive behavior during difficult times. Literature searches suggest that no study yet has directly assessed the association between compassion for the partner and relationship outcomes.

### **Self-compassion and compassion for the partner as a mediator between adult attachment and relationship functioning**

Given the theoretical and empirical evidence that attachment insecurity is linked with a lower ability to be compassionate to the self and to the partner, and given that compassion for the self and for the partner is likely to influence relationship quality, the present study sets out to examine whether compassion for the self and compassion for the partner mediate the association between attachment insecurity and poor relationship outcomes. Understanding the mechanisms of the attachment-relationship satisfaction link might help clinicians to directly target these mediators in couple interventions.

The present study used two relationship measures: relationship quality and relationship satisfaction. Relationship quality is defined as the extent to which a relationship provides or withholds beneficial experiences and interactions (Collins, 2003). Relationship satisfaction is defined as an interpersonal evaluation of the positivity of feelings for one's partner and attraction to the relationship (Rusbult & Buunk, 1993).

### **Current study hypotheses**

The current study examined the role of adult attachment, as well as compassion for the self and compassion for the partner in the context of adult romantic relationships in individuals and couples. Figure 3 summarizes the hypotheses described below.

Hypothesis 1: High attachment anxiety and high attachment avoidance were expected to be associated with low relationship satisfaction and low relationship quality.

Hypothesis 2: High attachment anxiety and high attachment avoidance were expected to be associated with low self-compassion and low compassion for the partner.

It was predicted that the association between self-compassion and anxiety would be stronger than between self-compassion and avoidance, and that the association between compassion for the partner and avoidance would be stronger than between compassion for the partner and anxiety.

Hypothesis 3: High self-compassion and high partner compassion were expected to be associated with high relationship quality and high relationship satisfaction.

Hypothesis 4: Self-compassion and compassion for partner were expected to mediate the relationship between attachment insecurity (anxiety and avoidance) and relationship measures (quality and satisfaction).

Hypothesis 4.1: Self-compassion was expected to mediate between anxious attachment and relationship quality/satisfaction.

Hypothesis 4.2: Self-compassion was expected to mediate between avoidant attachment and relationship quality/satisfaction.

Hypothesis 4.3: Partner compassion was expected to mediate between anxious attachment and relationship quality/satisfaction.

Hypothesis 4.4: Partner compassion was expected to mediate between avoidant attachment and relationship quality/satisfaction.

In the couple sample, it was further investigated whether self-compassion and partner compassion mediated between attachment and relationship outcomes testing both actor (intrapersonal) effects and partner (interpersonal) effects (Figure 4). For the actor effects, the same predictions were made as for the individual sample (Hypotheses 1-4). The partner effects were exploratory and no predictions were made about them.

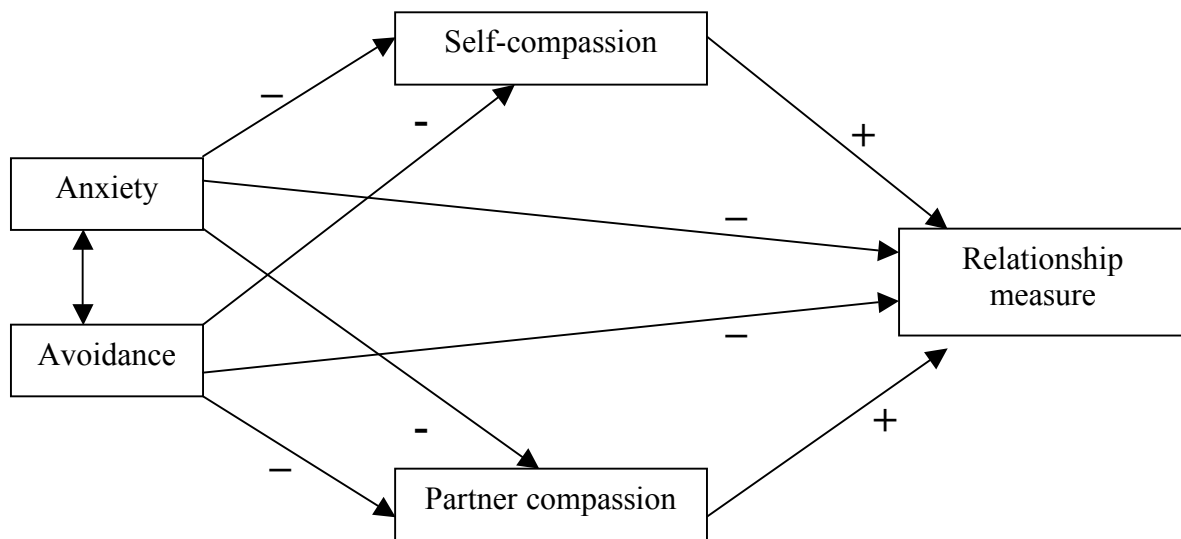


Figure 3. Hypothesized model for the individual sample

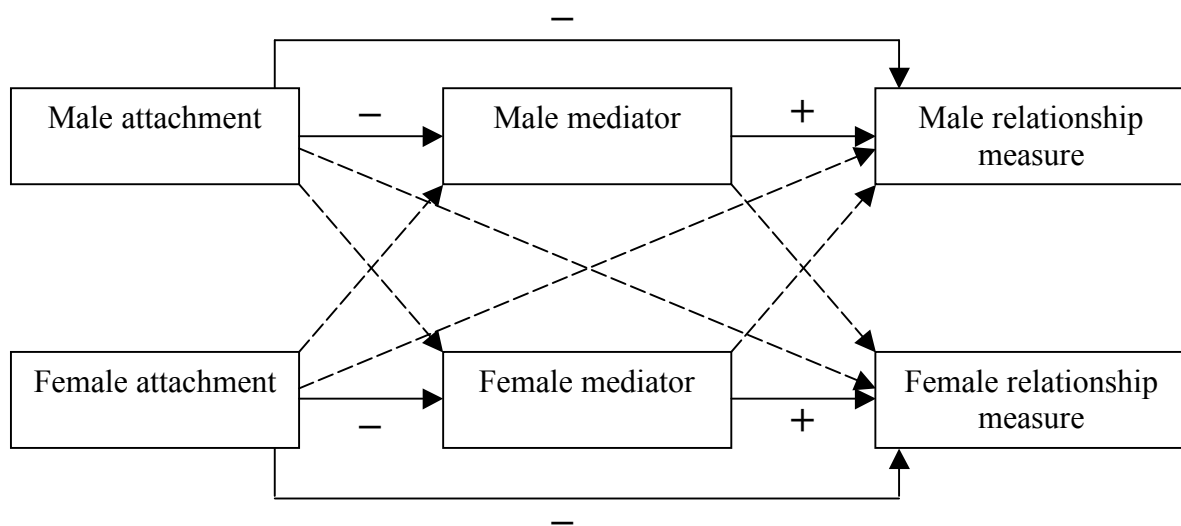


Figure 4. Hypothesized model for the couple sample; Mediator is either self-compassion or partner compassion; A dashed path indicates no specific hypothesis for this path. Also dashed paths indicate partner (interpersonal) effects, and continuous lines indicate actor (intrapersonal) effects.

## Method

### Participants and recruitment

Couples were invited to take part in an online survey. Minimum relationship duration was three months and minimum age for both partners was 18 years. The study was advertised on various online research boards in the United Kingdom (UK) and the United States of America (USA), and promotion emails were sent to various universities in the UK. Also, posters advertising the study were put on advertisement boards in shops, libraries, and train stations in London. In addition, snowball sampling was used, whereby participants were asked to forward the study information to other couples.

Participants were instructed to complete the survey independently from their partner. If their partner had not completed the survey yet, they were asked to forward the study details to their partner. Of the participants who started to complete the questionnaire, 37.5% finished it. The survey was completed by 440 people, consisting of 152 heterosexual couple responses (76 couples), 10 lesbian couple responses (five couples), eight gay couple responses (four couples), and 270 individual answers where no partner had completed the questionnaire (see Figure 5). Six participants who were younger than 18 years old, and eight participants who had been in their relationship for less than three months, were excluded from the study.

Both individual and couple responses were analyzed. The sample of the individual responses consisted of 258 responses where no partner had completed a questionnaire. Additionally, half of the partners of the couple responses were added to the individual sample ( $n = 84$ ). As there were more women than men in the individual responses, all male partners of the heterosexual couples were selected. For the same-sex couples the selection was random. This resulted in an overall individual sample of  $N = 342$ .

The couple analyses included the heterosexual couple responses ( $n = 75$ ). The lesbian and gay couples were not included in the couple analyses because their sample sizes were too small.

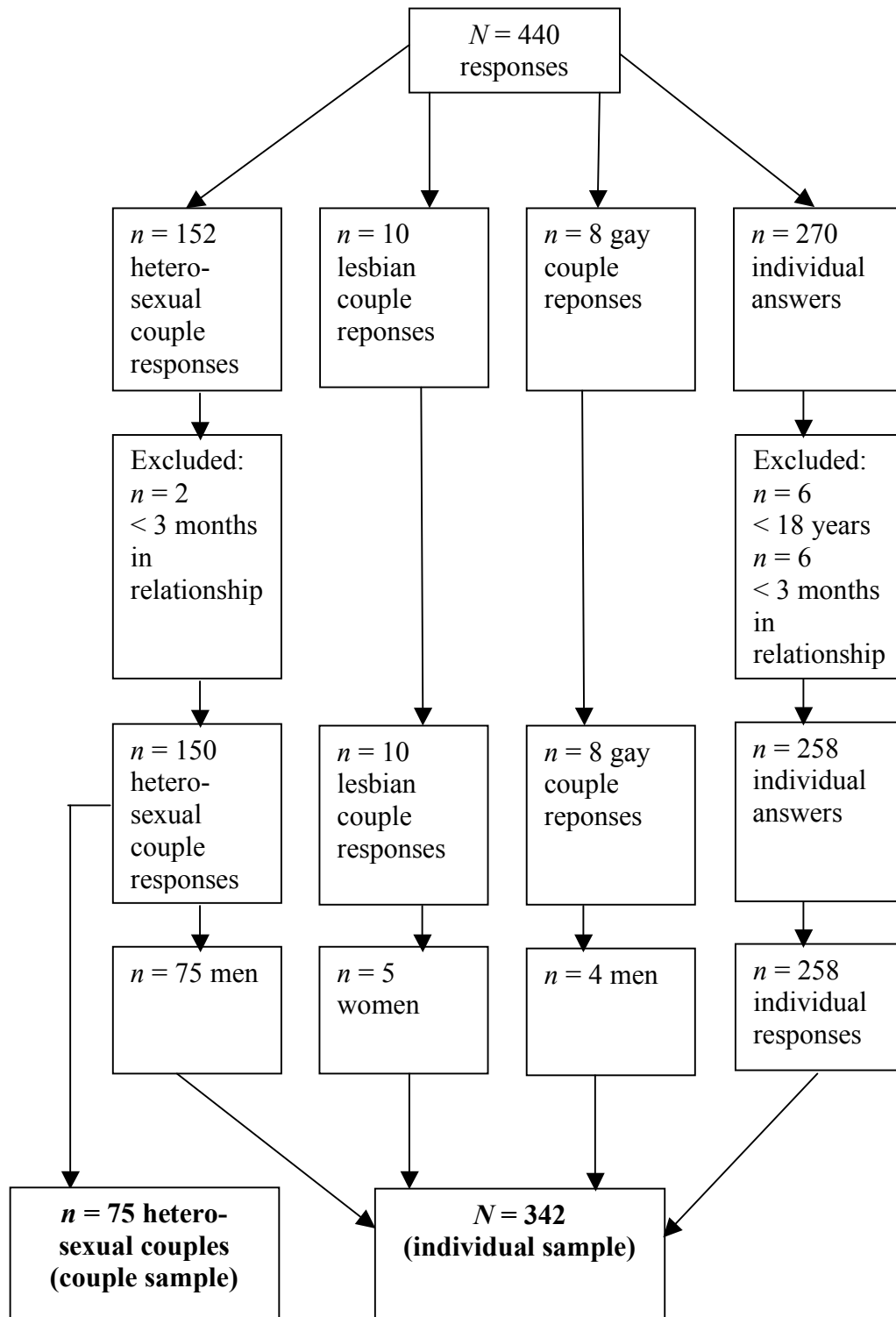


Figure 5. Participant flow; Boxes in bold letter type refer to the samples used in the current study

Table 5 provides an overview of the sample characteristics of the individual sample. More than half of the sample was female with a mean age of 27.1 years (Range 18-70). Nearly half of the participants (46.7%) had a university degree and a bit more than half of the sample was currently full-time student. The majority of people were White, and had English as a mother tongue. Nearly half of the sample was from the United States of America, and about a third was from the United Kingdom. More than half of the sample was either married, or living with someone as if married. Participants had been in their romantic relationship for 4.7 years on average, had on average 6.1 days per week face-to-face contact with their partner, and 63.3% were living together.

Table 6 shows the sample characteristics for the couple sample. The mean age was slightly higher than in the individual sample. Sixty-one percent of the men and 64% of the women had a university degree indicating that the couple sample was higher educated than the individual sample. Most people in this sample were in employment. The sample was predominantly White and had English as a mother tongue. Most couples were based in the United Kingdom. In the individual sample, most people came from the United States of America. Most couples were either married, or living with somebody as if married. The average length of the relationship was about 8 years. They had face-to-face contact with their partner on average 6.5 days a week, and about 80% of the couples were living together. This appeared to indicate that the couple sample was in slightly more long-term relationships than the participants in the individual sample.

Table 5.

*Sample characteristics of the individual sample (N = 342)*

		<i>N / Mean</i>	<i>% / SD</i>
Gender			
	Female	214	62.6%
	Male	128	37.4%
Age		27.1	8.8
Highest education	PhD, Dr, Dphil	23	6.7%
	MA, MSc, Mphil, MBA	49	14.3%
	Professional qualification	24	7.0%
	BA, BSc, Bed	88	25.7%
	A levels or equivalent	31	9.1%
	GCSE, O levels, GNVQ	8	2.3%
	No formal qualifications	24	7.0%
	Other	95	27.8%
Employment	Full-time student	185	54.1%
	Employed	140	40.9%
	Unemployed	17	5.0%
Ethnicity			
	White	242	70.8%
	Black	27	7.9%
	Asian	29	8.5%
	Mixed	17	5.0%
	Other	26	7.6%



Table 5 (continued)

Mother tongue English		263	77.1%
Country of Residence	United States of America	155	45.3%
	United Kingdom	111	32.5%
	Other	76	22.2%
Marital status	Married	89	26.0%
	In a registered partnership	10	2.9%
	Living with someone as if married	105	30.7%
	Divorced or annulled	3	0.9%
	Separated	1	0.3%
	Never married / single	94	27.5%
	Other	40	11.7%
Months in relationship		56.6	71.2
Days per week contact		6.1	1.4
Living together		213	62.3%
Children		60	17.5%
Number of previous romantic relationships		2.1	1.9

---

Table 6.

*Sample characteristics of the couple sample (n = 75)*

		Males		Females	
		<i>N / Mean</i>	<i>% / SD</i>	<i>N / Mean</i>	<i>% / SD</i>
Age		33	11.4	30.7	10.4
Highest education	PhD, Dr, Dphil	6	8%	18	24%
	MA, MSc, Mphil, MBA	19	25.3%	18	24%
	Professional qualification	9	12%	4	5.3%
	BA, BSc, BEd	21	28%	12	16%
	A levels or equivalent	7	9.3%	5	6.7%
	GCSE, O levels, GNVQ	3	4.0%	6	8%
	No formal qualifications	3	4.0%	3	4%
	Other	7	9.3%	9	12%

Table 6 (continued)

Employment	Full-time student	13	17.3%	28	37.3%
	Employed	53	70.7%	37	49.3%
	Unemployed	9	12%	10	13.3%
Ethnicity	White	65	86.7%	67	89.3%
	Black	1	1.3%	1	1.3%
	Asian	4	5.3%	4	5.3%
	Mixed	3	4%	2	2.7%
	Other	2	2.7%	1	1.3%
Mother tongue English		61	81.3%	57	76%
Country of Residence	United States of America	13	17.3%	17	22.7%
	United Kingdom	49	65.3%	47	62.7%
	Other	13	17.3%	11	14.7%

Table 6 (continued)

Marital status	Married	29	38.7%	29	38.7%
	Living with someone as if married	26	34.7%	28	37.3%
	Divorced or annulled	1	1.3%	2	2.7%
	Never married/single	15	20%	12	16%
	Other	4	5.3%	4	5.3%
Months in relationship		93.3	107.4	100.8	117.8
Days per week contact		6.5	1	6.6	1
Living together		61	81.3	62	82.7
Children		21	28%	21	28%
Number of previous romantic relationships		2.2	1.9	2.4	2.1

---

*Note.* *SD* = Standard deviation

## **Design**

The study employed a cross-sectional questionnaire design. Specifically, it consisted of the completion of online questionnaires assessing adult attachment, self-compassion, partner compassion, and relationship quality and satisfaction at one time point. The research questions were investigated in two samples: an individual sample ( $N = 342$ ), and a couple sample ( $n = 75$ ).

## **Materials / Measures**

### **Adult Attachment.**

Adult attachment anxiety and avoidance were assessed with the short version of the Experiences of Close Relationships scale (ECR-S; Wei, Russell, Mallinckrodt, & Vogel, 2007). This scale consists of 12 items, six items assessing attachment anxiety (e.g. “I need a lot of reassurance that I am loved by my partner”) and six items assessing attachment avoidance (e.g. “I try to avoid getting too close to my partner”) that are rated on a scale from 1 (strongly disagree) to 7 (strongly agree). The items of each scale are summed up to get a total anxiety and total avoidance score (higher scores = higher anxiety and higher avoidance). ECR-S has been shown to have good psychometric properties (internal consistency: .78 (anxiety) and .84 (avoidance); test-re-test reliability: .82 (anxiety) and .89 (avoidance)).

The anxiety subscale was related to constructs such as excessive reassurance seeking. The avoidance subscale was related to discomfort with self-disclosure, supporting good convergent validity (Wei et al. 2007). In the current study, internal consistency, as measured by Cronbach’s alpha, was acceptable to good (individual sample: anxiety = .71; avoidance = .74; couple sample: male anxiety = .65, female anxiety = .75, male avoidance = .75, and female avoidance = .83).

**Self-compassion.**

Self-compassion was assessed with the Short Form Self-Compassion Scale (SCS-SF; Raes, Pommier, Neff, & Van Gucht, 2011). This scale consists of 12 items (e.g. “I try to be understanding and patient towards those aspects of my personality I don’t like”) that are rated on a scale from 1 (almost never) to 5 (almost always). It produces six subscales: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification.

To compute a total self-compassion score, the negative subscale items - self-judgment, isolation, and over-identification - are reversed and then a total mean is computed (higher score = higher self-compassion). The SCS-S has good psychometric properties (Cronbach’s  $\alpha \geq .86$ ; strong correlation with long form SCS:  $r \geq .97$  (Neff, 2003a)). Confirmatory factor analysis on the SCS-SF supported the six-factors structure, as well as a single higher-order factor for self-compassion (Raes et al. 2011). Internal consistency in the current study was good (individual sample = .84; couple sample: men = .86, women = .89).

**Partner compassion.**

To assess partner compassion, the Compassion for Others Scale (COS; Pommier, 2011) was used and adapted to apply to partners specifically. For example, instead of “I often tune out when people tell me about their troubles”, it would read “I often tune out when my partner tells me about his / her troubles”. K. D. Neff, author of the SCS and co-author of the COS, confirmed that such an adaptation of the scale appears valid (personal communication, April 8, 2015). The COS consists of 24 items that are rated on a scale from 1 (almost never) to 5 (almost always). It produces six subscales: kindness, indifference, common humanity, separation, mindfulness, and disengagement. To compute a total compassion score, the negative subscale items - indifference, separation, and disengagement - are reversed and then a total mean is computed (higher score = higher compassion). The internal consistency has been reported as high (.90) and the scale significantly correlated with scales measuring

compassionate love, wisdom, social connectedness, and empathy suggesting convergent validity. Further, a confirmatory factor analysis on the COS supported the six-factors structure, as well as a single higher-order factor for compassion (Pommier, 2011). In the current study, internal consistency for the partner compassion scale (PCS) was good to excellent (individual sample = .89; couple sample: men = .87, women = .92).

### **Relationship quality.**

Relationship quality was assessed with the Partner Behaviors as Social Context (PBSC) scale (Ducat & Zimmer-Gembeck, 2010). This scale assesses relationship quality by asking about positive and negative partner behavior (“My partner seeks my opinion and values it” or “My partner tries to control me”). The PBSC consists of 30 items that are rated on a scale from 1 (not at all true) to 6 (very true). The scale produces six subscales: warmth, autonomy support, structure, rejection, coercion, and chaos. To calculate a total score, the negative subscales (rejection, coercion, and chaos) are reversed and then a total mean score is calculated (higher score = higher relationship quality). The internal consistency has been reported as high (.93), and the scale correlates with other measures of relationship quality indicating convergent validity (Ducat & Zimmer-Gembeck, 2010). Internal consistency in the current study was excellent (individual sample = .95, couple sample = .94 for men and for women).

### **Relationship satisfaction.**

Relationship satisfaction was assessed with the Couples Satisfaction Index-16 (CSI-16; Funk & Rogge, 2007). This measure assesses relationship quality with 16 items asking participants about their happiness with their current relationship (e.g. “My relationship with my partner makes me happy” or “How rewarding is your relationship with your partner?”). One global item uses a seven-point scale, whereas the other 15 items use a six-point scale. For a total satisfaction score, items were summed up (higher scores = higher relationship

satisfaction). Internal consistency has been reported as high (.98), and the CSI-16 correlated highly with other measures of relationship satisfaction suggesting convergent validity (Funk & Rogge, 2007). In the current study, internal consistency was acceptable (individual sample = .68; couple sample: men = .71, women = .70).

### **Ethics**

Ethics approval was obtained from Salomons Ethics Panel (Reference number: MMC/V75; Appendix C). All participants read a participant information sheet (Appendix D) before giving consent to take part in the study (Appendix E). Consent was given online. Participants were encouraged to discontinue the completion of the survey should they become distressed and to contact a phone helpline should they continue to stay distressed. British Psychological Society guidelines with regards to research were followed (The British Psychological Society, 2010).

### **Statistical analyses and statistical power**

Associations between measures were established using Pearson correlation and bias-corrected bootstrap confidence intervals (5000 bootstrap samples). Mediation in the individual sample was assessed using the PROCESS macro for SPSS (Hayes, 2013) and the bootstrap method (5000 bootstrap samples). The association between attachment and self-compassion has been reported on average as  $r = .29$  (Wei et al. 2011), and the association between self-compassion and relationship behavior has been reported on average as  $r = .25$  (Neff & Beretvas, 2013). Assuming medium sizes of the paths (.26), the sample size to reach a power of .8 is  $N = 148$  (Fritz & MacKinnon, 2007).

Mediation in the couple sample was assessed with the Actor-Partner Interdependence Model for Mediation (APIMeM; Ledermann, Macho, & Kenny, 2011), which incorporates meditational processes within the traditional actor-partner interdependence model (APIM; Kenny, Kashy, & Cook, 2006). The APIMeM estimates actor (intrapersonal) effects and



partner (interpersonal) effects (see Figure 6). With heterosexual couples, there are six actor effects (aAh, bAh, cAh, aAw, bAw, cAw) and six partner effects (aPh, bPh, cPh, aPw, bPw, cPw) that constitute eight simple indirect (mediating) effects (aAh -> bAh; aAw -> bAw; aPw -> bAw; aPw -> bPh; aAh -> bPw; aPh -> bAh; aPh -> bPw; aAw -> bPh). T. Ledermann advised that a sample size of 120 couples ( $N = 240$ ) is the lowest limit to get enough statistical power to find mediating effects using the APIMeM model (personal communication, May 7, 2012).

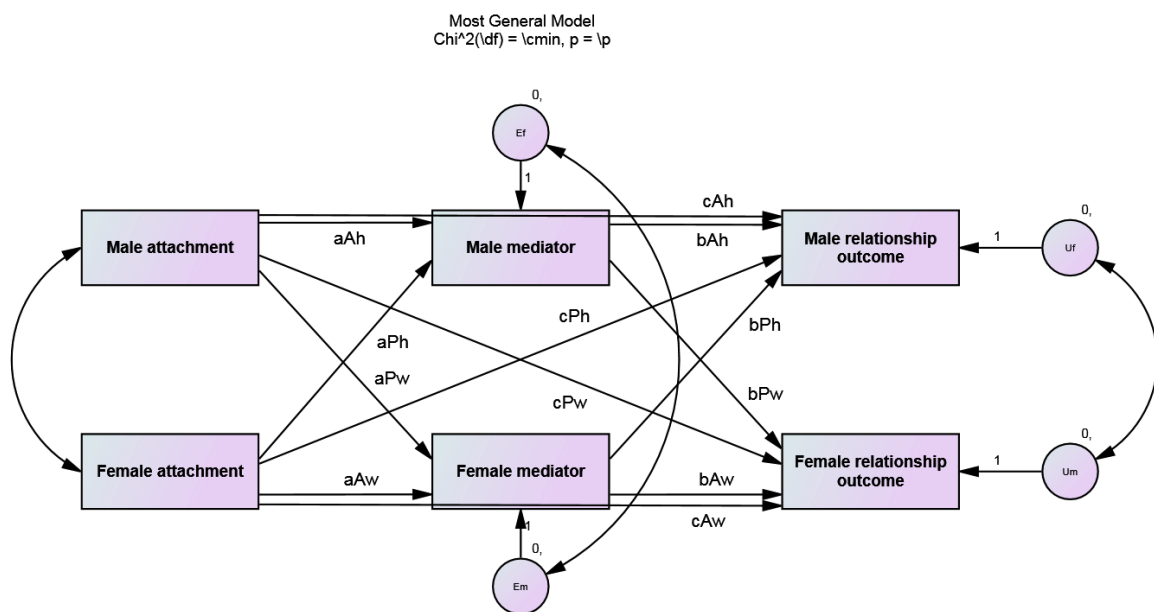


Figure 6. The Actor-Partner Interdependence Model for Mediation (APIMeM); aAh = a Actor effect husband, bAh = b Actor effect husband, cAh = c Actor effect husband; aAw = a Actor effect wife, bAw = b Actor effect wife, cAw = c Actor effect wife, aPh = actor Partner effect husband, bPh = b Partner effect husband, cPh = c Partner effect husband, aPw = a Partner effect wife, bPw = b Partner effect wife, cPw = c Partner effect wife

## Results

### Overview

Self-compassion and compassion for the partner as mediators for the association between attachment and relationship quality and satisfaction were investigated in two samples, one including only individuals ( $N = 342$ ) and one including couples ( $n = 75$ ). Results will be presented separately for the two samples.

### Results for the individual sample

Table 7 shows means, standard deviation and correlations of the measures in the individual sample. Mean scores and standard deviations were comparable to scores in other non-clinical samples (Ducat & Zimmer-Gembeck, 2010; Funk & Rogge, 2007; Neff & Beretvas, 2013; Pommier, 2011; Wei et al., 2007). All measures in the individual sample were significantly correlated in the expected direction, supporting Hypothesis 1 (negative association between attachment anxiety / avoidance and relationship quality / satisfaction), Hypothesis 2 (negative association between attachment anxiety / avoidance and self-compassion / partner compassion), and Hypothesis 3 (positive association between self-compassion / partner compassion and relationship quality / satisfaction).

### Planned mediation analyses with simultaneous parallel mediators.

Two mediation models were tested using self-compassion and partner compassion as simultaneous parallel mediators: one with relationship quality as outcome variable (model *a*) and one with relationship satisfaction as outcome variable (model *b*; see Figure 7). To test for gender effects, the two models were tested again using gender as moderating variable of the direct and the indirect effects.

As shown in Table 8, attachment avoidance had a significant indirect effect on relationship quality and relationship satisfaction through partner compassion, but not through

self-compassion. This suggested that higher attachment avoidance was associated with lower partner compassion, which was associated with lower relationship quality and satisfaction.

In addition to these indirect effects, direct negative effects of avoidance on relationship quality and satisfaction were also found. This indicated that higher avoidance was associated with lower relationship quality and satisfaction. The latter speaks to there being a relationship between avoidance and relationship measures beyond that which is accounted for by partner compassion.

Attachment anxiety had no significant indirect effects on relationship quality and satisfaction. A significant negative direct effect of attachment anxiety on relationship quality and satisfaction was found. This indicated that higher anxiety was associated with lower relationship outcomes.

Model *a* predicted 37% ( $R^2 = 0.37$ ) of the variance in relationship quality, and model *b* predicted 28% ( $R^2 = 0.28$ ) of the variance in relationship satisfaction.

Table 7.

*Correlations, means and standard deviations of the variables in the individual sample*

	1	2	3	4	5	6
1 Anxiety	–					
2 Avoidance	.24** (.13, .34)	–				
3 Self-compassion	-.33** (-.44, -.22)	-.17** (-.27, -.07)	–			
4 Partner compassion	-.14* (-.23, -.03)	-.56** (-.64, -.47)	.22** (.13, .31)	–		
5 Relationship quality	-.45** (-.53, -.35)	-.51** (-.59, -.43)	.25** (.14, .35)	.59** (.50, .66)	–	
6 Relationship satisfaction	-.39** (-.48, -.30)	-.44** (-.53, -.34)	.17* (.05, .28)	.39** (.27, .49)	.70** (.63, .76)	–
Mean	21.72	12.83	2.99	4.26	4.78	64.92
SD	6.76	5.20	0.67	0.49	0.83	7.24

*Note.*  $N = 342$ ; \*\*  $p < .001$ ;  $SD$  = Standard deviation; value in brackets show 95% Confidence Intervals; Scores range from 6 to 42 for anxiety and avoidance, from 1 to 5 for self-compassion and partner compassion, from 1 to 6 for relationship quality, and from 0 to 81 for relationship satisfaction

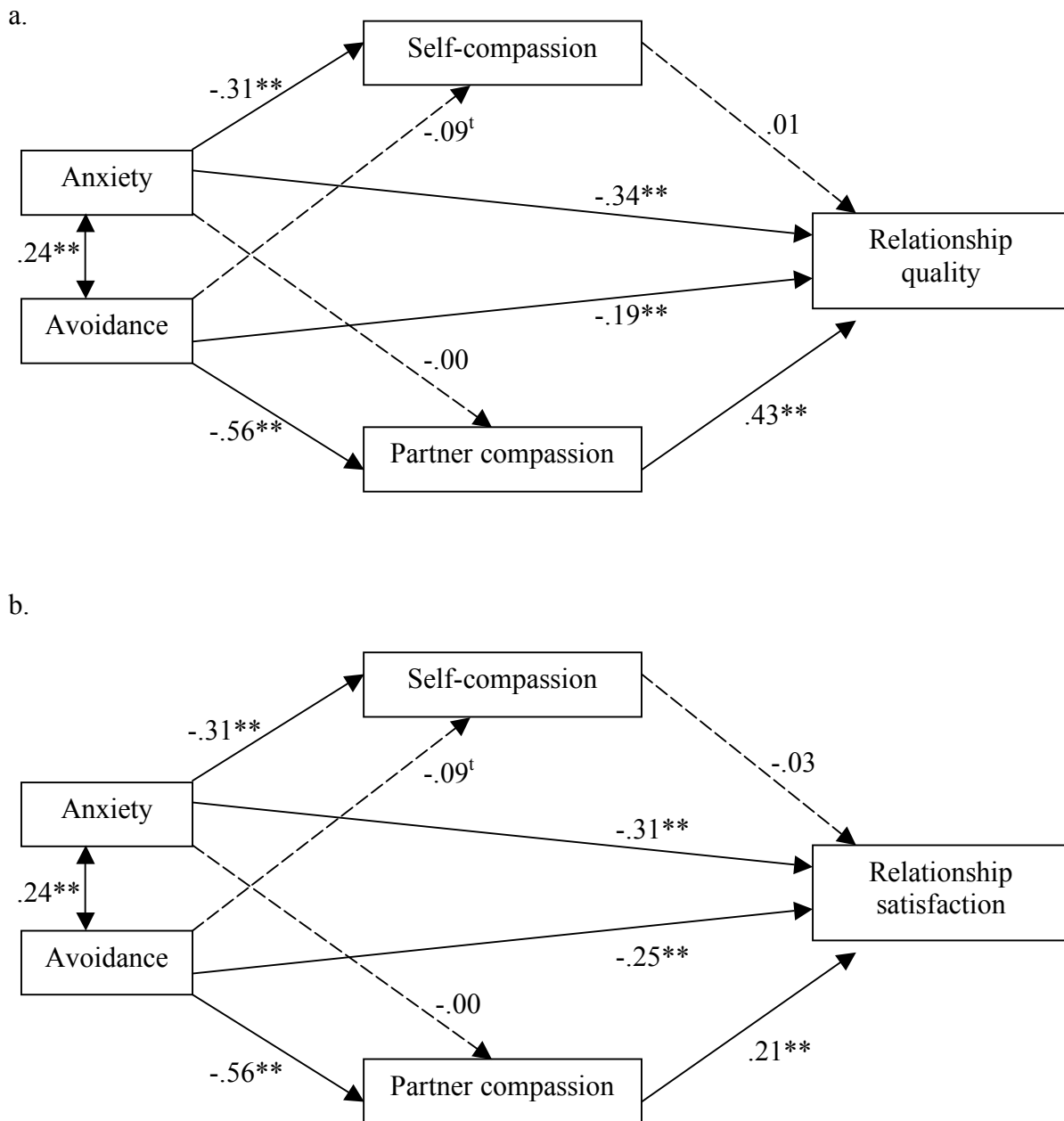


Figure 7. Models with standardized parameters testing the association between attachment and relationship quality and satisfaction with self-compassion and partner compassion as parallel mediators; Dashed paths indicate non-significant paths;  $** p < .001$ ;  $* p < .05$ ;  $^t p < .10$

Table 8.

*Unstandardized indirect and direct effects of mediation models with parallel mediators*

Model <i>a</i>	Estimate	95% BC CI
<b>RELATIONSHIP QUALITY</b>		
<b>Anxiety</b>		
Indirect effect self-compassion	-.0004	(-.0039, .0028)
Indirect effect partner compassion	-.0001	(-.0048, .0041)
Direct effect anxiety on relationship quality	-.0414*	(-.0514, -.0314)
Total effect	-.0419*	(-.0526, -.0313)
<b>Avoidance</b>		
Indirect effect self-compassion	-.0002	(-.0022, .0010)
Indirect effect partner compassion	-.0385*	(-.0522, -.0269)
Direct effect avoidance on relationship quality	-.0630*	(-.0444, -.0148)
Total effect	-.0683*	(-.0821, -.0544)
Model <i>b</i>	Estimate	95% CI
<b>RELATIONSHIP SATISFACTION</b>		
<b>Anxiety</b>		
Indirect effect self-compassion	.0085	(-.0239, .0447)
Indirect effect partner compassion	-.0004	(-.0237, .0179)
Direct effect anxiety on relationship satisfaction	-.3343*	(-.4375, -.2312)
Total effect	-.3262*	(-.4260, -.2265)

Table 8 (continued)

**Avoidance**

Indirect effect self-compassion	.0033	(-.0082, .0220)
Indirect effect partner compassion	-.1611*	(-.2337, -.0403)
Direct effect avoidance on relationship satisfaction	-.3512*	(-.5038, -.1987)
Total effect	-.5090*	(-.6387, -.3794)

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*Note.* BC CI = Bias-Corrected Confidence Interval; \* $p < .05$

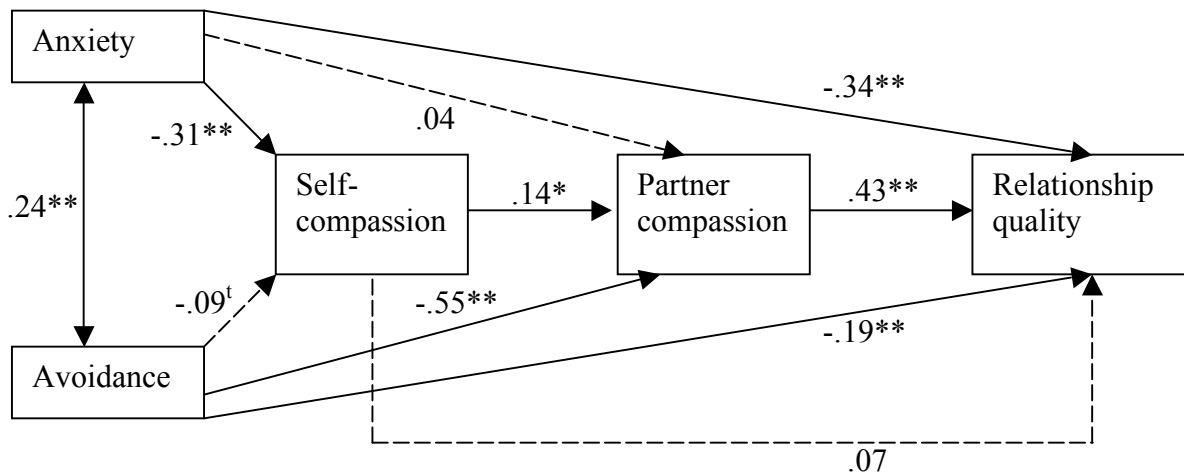
Thus, these results suggested that partner compassion statistically mediated between attachment avoidance and both relationship quality and satisfaction, but not between attachment anxiety and relationship outcomes. Self-compassion was not found to statistically mediate between attachment and relationship quality and satisfaction. Hence, there was support for Hypothesis 4.4, but not for Hypotheses 4.1 – 4.3.

The analyses were repeated including gender as a moderator. Gender did not emerge as a moderator of any of the direct or indirect effects (see Appendix F).

#### **Exploratory mediation analyses with sequential mediators.**

Self-compassion did not emerge as a statistical mediator between attachment and relationship quality and satisfaction in the models tested above. Research has provided empirical evidence that self-compassion is linked with concern for others (Neff & Pommier, 2013; Neff & Beretvas, 2013), and it has been suggested that compassion for others is linked with positive relationship outcome (Gilbert, 2014). Therefore, an exploratory mediation model was tested in which self-compassion and partner compassion were not parallel, but sequential mediators (Figure 8; model *c* and model *d*). This analysis was not planned originally and therefore its findings should be treated tentatively.

c.



d.

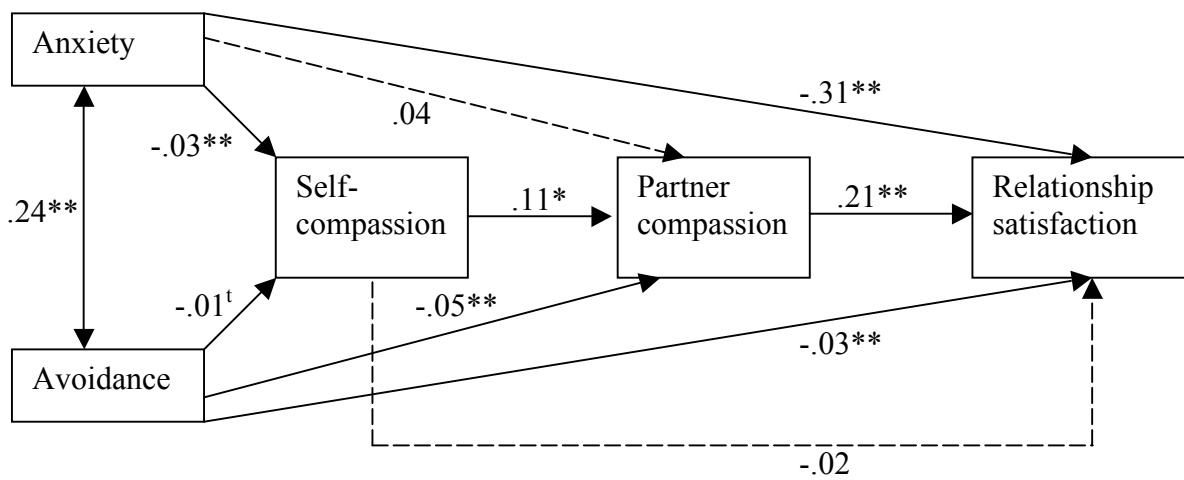


Figure 8. Models with standardized parameters testing the association between attachment and relationship quality and satisfaction with self-compassion and partner compassion as sequential mediators;  $**p < .001$ ;  $*p < .05$ ;  $^t p < .10$



As shown in Table 9, attachment anxiety and attachment avoidance had a significant indirect effect on relationship quality and satisfaction through self-compassion and partner compassion. This suggested that higher attachment anxiety and avoidance were linked with lower self-compassion, which was linked with lower compassion for the partner, which in turn was linked with lower relationship quality and satisfaction.

The results also showed a significant indirect effect of attachment avoidance on relationship quality and satisfaction through partner compassion. This indicated that higher avoidance was associated with lower partner compassion, which was associated with lower relationship quality and satisfaction.

In addition to the indirect effects, direct negative effects of attachment anxiety and avoidance on relationship quality and satisfaction were also found. This indicated that higher attachment anxiety and avoidance were associated with lower relationship quality and satisfaction. The latter speaks to there being a relationship between attachment anxiety and avoidance and relationship quality and satisfaction beyond that which is accounted for by self-compassion and partner compassion.

Model *c* predicted 50% ( $R^2 = 0.50$ ) of the variance in relationship quality, and model *d* predicted 31% ( $R^2 = 0.31$ ) of the variance in relationship satisfaction.

No significant indirect effects emerged if the sequence of the mediators was reversed. In other words, there was no indirect effect of attachment insecurity on relationship outcome sequentially going through partner compassion and then through self-compassion.

Thus, these results overall tentatively suggested that attachment anxiety and avoidance had an indirect effect on relationship quality and satisfaction going through self-compassion and then partner compassion in a sequential order. The results also showed a significant indirect effect of attachment avoidance on relationship quality and satisfaction through partner compassion.

Table 9.

*Unstandardized indirect and direct effects of mediation models with sequential mediators*

Model <i>c</i>	Estimate	95% BC CI
<b>RELATIONSHIP QUALITY</b>		
<b>Anxiety</b>		
Indirect effect self-compassion	-.0004	(-.0039, .0028)
Indirect effect partner compassion	.0023	(-.0024, .0072)
Indirect effect self-compassion -> partner compassion	-.0024*	(-.0049, -.0009)
Direct effect anxiety on relationship quality	-.0414*	(-.0514, -.0314)
Total effect	-.0419*	(-.0526, -.0313)
<b>Avoidance</b>		
Indirect effect self-compassion	-.0002	(-.0022, .0010)
Indirect effect partner compassion	-.0375*	(-.0512, -.0261)
Indirect effect self-compassion -> partner compassion	-.0009*	(-.0025, -.0001)
Direct effect avoidance on relationship quality	-.0296*	(-.0444, -.0148)
Total effect	-.0683*	(-.0821, -.0544)
Model <i>d</i>	Estimate	95% CI
<b>RELATIONSHIP SATISFACTION</b>		
<b>Anxiety</b>		
Indirect effect self-compassion	.0085	(-.0239, .0447)
Indirect effect partner compassion	.0095	(-.0077, .0385)
Indirect effect self-compassion -> partner compassion	-.0099*	(-.0266, -.0022)
Direct effect anxiety on relationship satisfaction	-.3343*	(-.4375, -.2312)
Total effect	-.3262*	(-.4260, -.2265)

Table 9 (continued)

**Avoidance**

Indirect effect self-compassion	.0033	(-.0082, .0220)
Indirect effect partner compassion	-.1572*	(-.2753, -.0389)
Indirect effect self-compassion -> partner compassion	-.0039*	(-.0143, -.0004)
Direct effect avoidance on relationship satisfaction	-.3512*	(-.5038, -.1987)
Total effect	-.5090*	(-.6387, -.3794)

---

*Note.* BC CI = Bias-Corrected Confidence Interval; \*  $p < .05$

**Results for the couple sample**

Table 10 presents means, standard deviations, and correlations of the variables in the couple sample. The means and standard deviations were similar to scores found in other studies with non-clinical samples (Ducat & Zimmer-Gembeck, 2010; Funk & Rogge, 2007; Neff & Beretvas, 2013; Pommier, 2011; Wei et al., 2007). Women scored higher on partner compassion than men and perceived their relationship as more satisfying than men.

The results indicated that the relations between the variables were more mixed in the couple sample than in the individual sample, and did not support predictions in all cases.

Hypothesis 1 (negative association between attachment anxiety / avoidance and relationship outcome measures) was mainly supported, but in females, anxiety was only associated with relationship quality, not with satisfaction. Hypothesis 2 (negative association between attachment anxiety / avoidance and self-compassion / partner compassion) was supported in females, but was only partially supported in males. In males, attachment anxiety was neither associated with self-compassion nor with partner compassion. Male attachment avoidance was associated with lower compassion for the partner, but not with self-compassion.

Hypothesis 3 (positive association between self-compassion / partner compassion and

relationship quality / satisfaction) was only partially supported. Male partner compassion, but not male self-compassion, was positively associated with male relationship quality and satisfaction. Both female partner compassion and female self-compassion were positively associated with relationship quality, but not with relationship satisfaction.

### **Mediation analyses**

Data were analyzed using the APIMeM in AMOS (Ledermann et al., 2011). In the APIMeM model, only one (male and female) predictor variable, one (female and male) mediator variable, and one (female and male) outcome variable can be implemented at a time. As there were two predictor variables (anxiety and avoidance), two mediator variables (self-compassion and compassion for the partner), and two outcome variables (relationship quality and relationship satisfaction), there were eight potential mediation models that could be analyzed. Due to space restrictions, only the two models that produced significant indirect effects will be presented in detail below (see Figure 9; model *e* and model *f*). For the other models, please see Appendix G-J. Table 11 shows the direct and indirect effects of the APIMeM. As the APIMeM was underpowered, also trends ( $p < .10$ ) are reported.

Table 10.

*Means, Standard Deviations, and Correlations (Men above, women below, and between women and men along the diagonal) for study variables in the couple sample*

	Women		Men		<i>t</i>	<i>d</i>	1	2	3	4	5	6
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>								
1 Anxiety	20.64	6.57	19.39	5.96	-1.29	0.15	.10	.12	-.10	-.08	-.45**	-.55**
							(-.09,.30)	(-.13, .37)	(-.35, .18)	(-.32, .16)	(-.61,-.25)	(-.71,-.34)
2 Avoidance	11.08	5.22	12.17	4.42	1.65	-0.19	.33**	.30**	-.14	-.47**	-.42**	-.37**
							(.16,.48)	(.06, .51)	(-.35, .09)	(-.62,-.30)	(-.58,-.26)	(-.53,-.23)
3 Self-compassion	3.03	0.76	3.05	0.72	0.23	-0.02	-.49**	-.41**	.16	.35**	.18	.11
							(-.65,-.30)	(-.55,-.25)	(-.09, .39)	(.17, .52)	(-.07, .41)	(-.11, .31)
4 Partner compassion	4.37	0.53	4.19	0.44	-2.90*	0.32	-.28**	-.61**	.25*	.34**	.51**	.46**
							(-.47,-.04)	(-.80,-.42)	(.08, .45)	(.13,.51)	(.22, .71)	(.12, .68)
5 Relationship quality	5.14	0.67	4.85	0.72	-3.81**	0.45	-.23*	.67**	.26*	.16	.56**	.73**
							(-.47,-.04)	(-.80,-.50)	(.06,.45)	(-.03,.34)	(.34, .73)	(.55, .84)

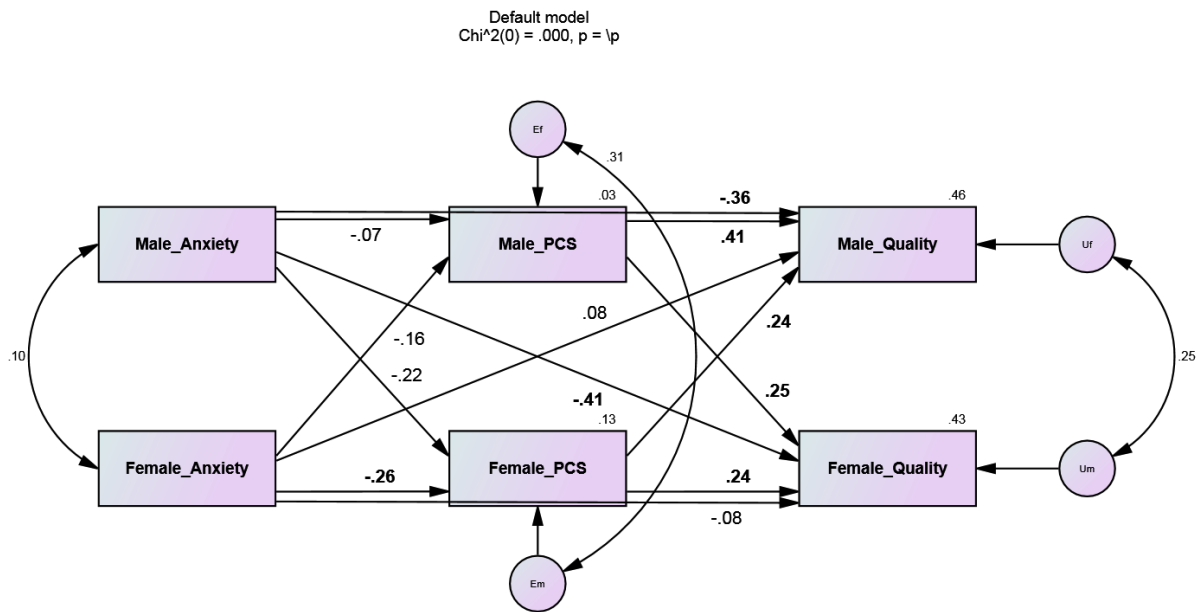
Table 10 (continued)

6 Relationship satisfaction	66.64	6.50	66.45	6.22	-0.26	0.03	-.04	-.36**	.16	.17	.56**	.51**
							(-.24,.14)	(-.61,-.08)	(-.03,.34)	(-.04,.43)	(.28, .76)	(.24,.72)

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*Note.*  $n = 75$ ; Scores range from 6 to 42 for anxiety and avoidance, from 1 to 5 for self-compassion and partner compassion, from 1 to 6 for relationship quality, and from 0 to 81 for relationship satisfaction;  $d =$  Cohen's  $d$ ; Values in brackets are 95% Bootstrapping Confidence Intervals; \*  $p < .05$ ; \*\*  $p < .001$

e. APIMeM with attachment anxiety, partner compassion (PCS) and relationship quality



f. APIMeM with attachment avoidance, partner compassion (PCS) and relationship quality

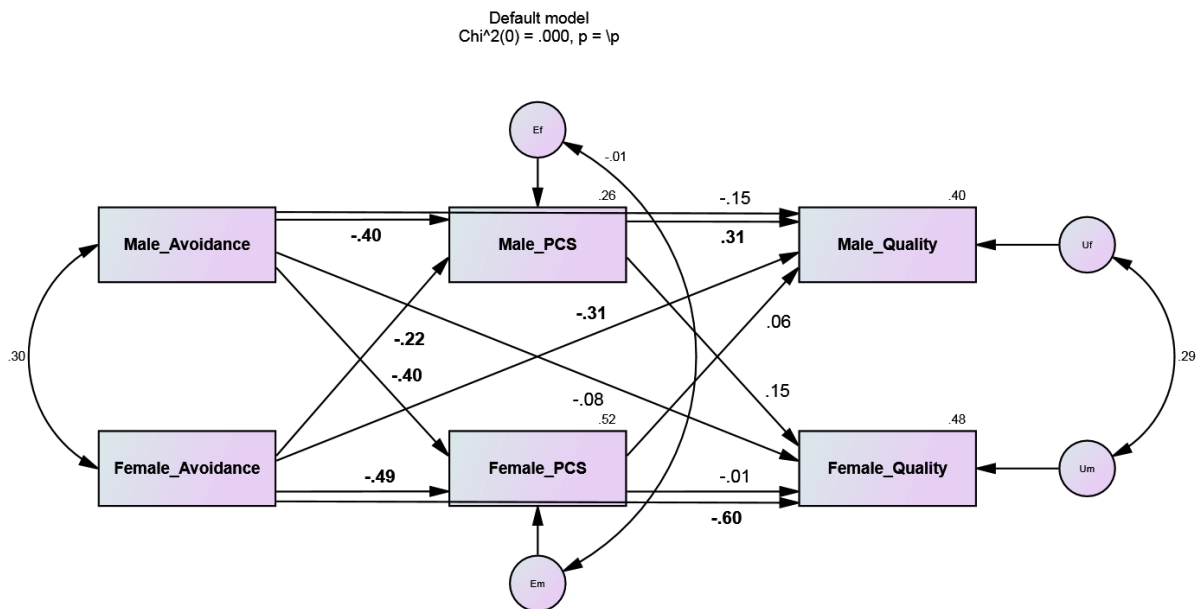


Figure 9. Actor-Partner Interdependence Model for Mediation (APIMeM) with standardized parameters testing the association between anxiety and quality (Figure 9e), avoidance and quality (Figure 9f) in males and females with partner compassion as mediator. Numbers in bold signify significant direct effects ( $p < .05$ )

**Partner compassion and attachment anxiety.**

For attachment anxiety, a significant indirect female actor-actor effect was found. This indicated that the more anxiously attached female individuals showed less partner compassion and reported lower relationship quality. A trend for an indirect female partner-partner effect was found: male partners of anxiously attached females showed less partner compassion and this was associated with female partners reporting lower relationship quality. A significant indirect female to male actor-partner effect indicated that female individuals higher in attachment anxiety showed less partner compassion and this was associated with male partners reporting lower relationship quality. No other indirect effects were significant for attachment anxiety.

The direct effects between female attachment anxiety and female and male relationship quality were not significant. This speaks to there not being a relationship between female anxiety and female and male reports of relationship quality beyond that which is accounted for by female and male partner compassion. A significant direct male actor effect indicated that the more anxious male individuals were the lower they perceived their relationship quality. Also, there was a significant direct male to female partner effect indicating that male anxiety was associated with lower female relationship quality.

Overall, these results indicated that whereas female anxiety appeared to have negative indirect effects on male and female reports of relationship quality through reduced female and male partner compassion, male attachment anxiety appeared to have direct negative effects on male and female reports of relationship quality.



Table 11.

*Simple indirect effects and direct effects for partner compassion and relationship quality in the Actor-Partner Interdependence Model for Mediation (APIMeM)*

Model <i>e</i>	Estimate	95% BC CI
<b>Anxiety</b>		
<b>Simple Indirect effects</b>		
Male anxiety -> Male PCS -> Male relationship quality	-.019	(-.131, .036)
Male anxiety -> Male PCS -> Female relationship quality	-.011	(-.088, .019)
Male anxiety -> Female PCS -> Female relationship quality	-.035	(-.152, .008)
Male anxiety -> Female PCS -> Male relationship quality	-.037	(-.130, .008)
Female anxiety -> Female PCS -> Female relationship quality	-.039*	(-.101, -.004)
Female anxiety -> Female PCS -> Male relationship quality	-.041*	(-.117, -.002)
Female anxiety -> Male PCS -> Male relationship quality	-.042	(-.130, .013)
Female anxiety -> Male PCS -> Female relationship quality	-.024 <sup>t</sup>	(-.094, .004)
<b>Direct effects <i>c'</i></b>		
Male actor effect	-.262**	(-.416, -.133)
Female actor effects	-.046	(-.146, .054)
Male to female partner effect	-.277**	(-.395, -.144)
Female to male partner effect	.053	(-.069, .189)
<b>Total effects</b>		
Male actor total effect	-.318**	(-.488, -.173)
Female actor total effect	-.109*	(-.230, -.001)
Male to female total effect	-.324**	(-.450, -.197)
Female to male total effect	-.029	(-.158, .112)
Table 11 (continued)		

Model <i>f</i>		
<b>Avoidance</b>		
<b>Simple Indirect effects</b>		
Male avoidance -> Male PCS -> Male relationship quality	-0.020*	(-.046, .000)
Male avoidance -> Male PCS -> Female relationship quality	-0.009	(-.030, .007)
Male avoidance -> Female PCS -> Female relationship quality	.001	(-.011, .017)
Male avoidance -> Female PCS -> Male relationship quality	-0.004	(-.022, .013)
Female avoidance -> Female PCS -> Female relationship quality	.001	(-.019, .015)
Female avoidance -> Female PCS -> Male relationship quality	-0.004	(-.028, .014)
Female avoidance -> Male PCS -> Male relationship quality	-0.009 <sup>t</sup>	(-.033, .001)
Female avoidance-> Male PCS -> Female relationship quality	-0.004	(-.021, .002)
<b>Direct effects c'</b>		
Male actor effect	-0.025	(-.060, .010)
Female actor effects	-0.077**	(-.111, -.049)
Male to female partner effect	-0.012	(-.043, .022)
Female to male partner effect	-0.043*	(-.078, -.004)
<b>Total effects</b>		
Male actor total effect	-0.049*	(-.082, -.021)
Female actor total effect	-0.081*	(-.107, -.055)
Male to female total effect	-0.020	(-.049, .005)
Female to male total effect	-0.056**	(-.085, -.029)

Note. \*\*  $p < .001$ ; \*  $p < .05$ ; <sup>t</sup> $p < .10$ ; BC CI = Bias Corrected Confidence Intervals

**Partner compassion and attachment avoidance.**

For avoidance, results showed a significant indirect male actor-actor effect indicating that male individuals higher in attachment avoidance showed lower partner compassion and reported their relationship quality as lower. The direct male actor effect was not significant. This speaks to there not being a relationship between male attachment avoidance and male reports of relationship quality beyond that which is accounted for by male partner compassion. A trend for an indirect female to male partner-actor effect indicated that male partners of female individuals higher in attachment avoidance showed lower partner compassion and reported their relationship quality as lower. No more indirect effects were significant for avoidance.

The direct female to male partner effect was significant. This speaks to there being a relationship between female avoidance and male relationship quality beyond that which is accounted for by male partner compassion. A direct female actor effect was also significant indicating that female avoidance was associated with lower female reports of relationship quality.

Overall, these results suggested male reports of relationship quality were indirectly affected by male and female attachment avoidance through male partner compassion. Female attachment avoidance also had direct negative effects on male and female reports of relationship quality.

**Discussion**

The present study investigated the role of attachment, self-compassion and compassion for the partner in romantic relationships in an individual sample and in a couple sample. The study results supported the hypothesis that both higher attachment anxiety and higher attachment avoidance are related to less relationship quality and less satisfaction

(Hypothesis 1). This finding is in line with extensive previous research showing that higher attachment insecurity is associated with more negative relationship functioning (e.g. Li & Chan, 2012).

Results based on the individual sample and the females in the couple sample strongly supported a negative association between attachment (anxiety, avoidance) and compassion (self, partner) (Hypothesis 2). This finding is in line with previous research showing that more insecure individuals are less compassionate to themselves (Neff & Beretvas, 2013; Wei et al., 2011) and others (Mikulincer & Shaver, 2005), and it expands these findings to compassion towards a romantic relationship partner. In males in the couple sample, attachment avoidance, but not anxiety, was positively associated with self-compassion and partner compassion. However, in the individual sample, gender did not moderate the effect of attachment anxiety on compassion. This might be explained by the couple sample being substantially smaller than the individual sample, and it might have been that no effects emerged in men because of lack of statistical power. Future research might want to further investigate gender differences in the attachment-compassion link.

In the individual sample, there was clear support for a positive association between self-compassion/partner compassion and relationship quality/satisfaction (Hypothesis 3). This is in line with research showing that self-compassion is associated with more positive relationship outcome measures (Neff & Beretvas, 2013) and extends this finding to partner compassion as well.

In the couple sample, the results were less clear. Male partner compassion, but not male self-compassion, was associated with relationship quality and satisfaction, and female partner compassion and self-compassion were associated with relationship quality, but not satisfaction. Again, future research might clarify whether differences between individual and couple sample, might be due to lack of statistical power caused by a small sample size of the latter.

**Self-compassion as an intrapersonal mediator (within-partner effects)**

The study did not find that self-compassion was a direct statistical mediator between either attachment anxiety or attachment avoidance and relationship quality or satisfaction (Hypotheses 4.1 and 4.2 were not supported). Although self-compassion correlated significantly with relationship quality and satisfaction, once the shared variance with attachment measures was controlled for, this association was no longer significant. This stands in contrast to Neff and Beretvas (2013) who found that self-compassion was associated with positive relationship behavior also after attachment was controlled for. However, Neff and Beretvas only assessed positive relationship behavior rated by the partner rather than relationship quality or satisfaction rated by the assessed person and this might partially explain the difference in results.

An exploratory analysis tested a mediation model with self-compassion and partner compassion as sequential mediators between attachment and relationship quality and satisfaction. It showed an indirect effect of attachment anxiety and avoidance on relationship measures through self-compassion and partner compassion in sequential order. This tentatively indicated that in addition to a direct link from attachment to relationship outcome, there might also be an indirect link through self-compassion and partner compassion.

A possible interpretation of this effect might be that people low in attachment security have not learnt to be compassionate to themselves. Low self-compassion might negatively impact on their ability to be compassionate to their partners, and affect their relationship quality and satisfaction. This is in line with the common assumption that one first has to love oneself before one is able to love others (Campbell & Baumeister, 2004). Also, research has shown that attachment is linked with self-compassion (Wei et al., 2011) and that self-compassion is linked with other-focused concern (Neff & Pommier, 2013). However, due to the cross-sectional design of these studies it is not possible to determine causality.

This was an exploratory analysis and its results have to be interpreted with caution. Future studies should investigate the development of self-compassion and how it interlinks with the development of compassion for others using longitudinal designs.

### **Compassion for the partner as an intrapersonal mediator (within-partner effects)**

Partner compassion statistically mediated the link between attachment avoidance, but not anxiety, and relationship quality and satisfaction in the individual sample and in males in the couple sample (for relationship quality). High attachment avoidance was associated with low compassion towards the partner, and this was associated with low perceived relationship quality and satisfaction. This supported hypothesis 4.4., but not hypothesis 4.3.

The finding that reduced partner compassion is a mediator for attachment avoidance is in line with the idea that avoidant individuals have a more negative view of other people (Mikulincer & Shaver, 2007b). It has been hypothesized that avoidant individuals tend to deny their attachment needs and use deactivation strategies (such as being emotionally distant) in relationships, which might lead to negative relationship functioning (Mikulincer & Shaver, 2007b). Being less compassionate to a partner could be interpreted as a type of deactivation strategy. Not connecting with and wanting to alleviate the suffering of the partner might allow avoidant people to stay more disconnected from their relationship and to be less emotionally involved with their partner.

Other identified mediators of the avoidance-relationship link that might be interpreted as deactivation strategies are: detached emotional communication (Guerrero, Farinelli, & McEwan, 2009), less forgiveness (Chung, 2014; Kachadourian et al., 2004), less commitment (Ho et al., 2012), less empathy (Chung, 2014), less perceived social support (Meyers & Landsberger, 2002).

However, as this study used a cross-sectional design it is difficult to conclude about the causality of the assessed variables. Theoretically, it was assumed that compassion for the

partner is a way of relating to others that people might learn early on in childhood, based on the experiences they have with their caregivers (Gilbert, 2014). However, one might also assume that partner compassion might not be stable over time, but might depend on the behavior of the partner with whom people are currently in a relationship. Partner compassion is likely to decrease if one is in a relationship with a partner who shows a lot of negative behavior.

In females in the couple sample, compassion for the partner statistically mediated between attachment anxiety and relationship quality providing some support for hypothesis 4.3. In the individual sample partner compassion was not found as a direct statistical mediator for attachment anxiety. However, in the individual sample, anxiety and avoidance were included in one statistical model and their shared variance was therefore controlled for. In the couple data, each model included either anxiety or avoidance. The reason partner compassion emerged as a mediator in the couple sample might have been that the shared variance of anxiety with avoidance was not controlled for in these models.

In the individual sample compassion for the partner emerged as a sequential statistical mediator of the attachment anxiety-relationship quality and satisfaction link. This indicated that compassion for the partner might play a role in the link between anxiety and relationship outcomes, but only through self-compassion.

### **Interpersonal (between-partner) effects**

#### **Direct effects.**

Results showed significant direct actor effects of male attachment anxiety on male relationship quality, as well as a significant direct partner effect from male attachment anxiety to female relationship quality. This suggested that male attachment anxiety is associated with negative relationship outcomes for both men and women. For avoidance, there was a significant direct actor effect of female attachment avoidance on female relationship quality,

as well as a significant direct partner effect of female avoidance on male relationship quality. This suggested that female attachment avoidance is associated with negative relationship outcomes for women and men. These results are in line with the idea that male attachment anxiety and female attachment avoidance violate gender-role stereotypes and are therefore more detrimental to relationship quality (Feeney, 1994).

### **Indirect effects.**

Female partner compassion statistically mediated between female attachment anxiety and male relationship quality. This might indicate that more anxiously attached women are less able to show compassion towards their partner and this might make their male partner perceive their relationship quality as lower. Again, the reduced partner compassion might be a result rather than a cause of the low male relationship quality. A trend suggested that male partner compassion mediated between female anxiety and female relationship quality. A possible explanation is that male partners of more anxiously attached women feel that receive less opportunities to show compassion towards them, and therefore anxiously attached women perceive their relationship as lower in quality. Another trend showed that male partner compassion mediated between female avoidance and male relationship quality. This might indicate that male partners of avoidantly attached women show less compassion towards them resulting in lower male relationship quality. Again, causality cannot be determined.

No interpersonal indirect effects emerged for relationship satisfaction. The lack of results might be due to the less good reliability (Cronbach alpha) of the relationship satisfaction measure compared to the relationship quality measure.

### **Clinical implications**

The results of this study suggest that interventions based on enhancing compassion for others and the self (such as Compassion Focus Therapy; CFT; Gilbert, 2010) may be helpful for insecurely attached individuals who aim to improve their romantic relationships. CFT uses



different techniques to enhance compassion, such as imagery, letter writing, and breathing meditations (Gilbert, 2010). These techniques focus on three different flows of compassion: compassion to others, compassion from others, and compassion to the self. In line with previous research, the current study suggests that avoidantly attached individuals might especially benefit from strengthening the flow of compassion to others, whereas anxiously attached individuals might benefit most from practicing the flow of compassion to the self.

Anxiety and avoidant attachment are both facilitated by a lack of nurturing experiences. Therefore both would probably benefit from exercises practicing the flow of compassion from others. CFT is a relatively young psychotherapeutic approach and as such evidence for its effectiveness is developing (Leaviss & Uttley, 2015). So far, no study has investigated the use of CFT in couples.

### **Limitations**

This study has several methodological limitations. Firstly, the study involved a cross-sectional design, which makes it difficult to draw conclusions about how the measures assessed in the study relate to each other over time, as well as about the causal relations between the variables. Experimentally enhancing self-compassion or compassion for others (the partner) might be helpful in shedding some light into causal relationships between these variables. Future studies are needed to investigate the development and stability of compassion using a longitudinal design.

Secondly, the sample size for the couple data was relatively small and the APIMeM was therefore underpowered.

Thirdly, the response rate was relatively low (37.5%) which might indicate a high non-response bias suggesting that there might be distinct differences between people who responded to the survey and people who did not. However, it has been shown that response rates in online studies are often lower than in paper-based studies. Nulty (2008) reported

online response rates of 33% on average as compared with paper-based response rates of 56% on average.

Fourthly, the study sample was mainly White and heterosexual and therefore generalization is limited. Further research is needed to assess the role of compassion in romantic relationships in more heterogeneous samples.

### **Conclusion**

Compassion for the partner was a statistical mediator between attachment avoidance and relationship quality and satisfaction in an individual sample and in males in a couple sample. Self-compassion did not directly mediate the link between attachment insecurity and relationship quality and satisfaction. However, an exploratory analysis tentatively indicated that there was an indirect effect between attachment insecurity and relationship quality and satisfaction sequentially going through self-compassion and partner compassion.

The evidence for between-partner mediation of compassion was scarce, but this might be due to the small sample size of the couple sample. Future research is needed to investigate this.

Interventions aiming to enhance compassion for the self and for the partner might be helpful in reducing couple distress.

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**Section C:**

**Appendix of supporting material**

**Appendix A:**

*Standard research criteria for evaluating primary research papers from a variety of fields*

Study: Berant et al. (2003)

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Appendix A (continued)

Brassard et al. (2009)

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Appendix A (continued)

Cann et al. (2008)

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Appendix A (continued)

Chung (2014)

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Appendix A (continued)

Cobb et al. (2001)

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Appendix A (continued)

Davila et al. (1998)

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Appendix A (continued)

Feeney (1994)

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Appendix A (continued)

Feeney (1999)

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Appendix A (continued)

Feeney (2002)

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Appendix A (continued)

Frei & Shaver (2002)

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Appendix A (continued)

Gallo & Smith (2001)

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Appendix A (continued)

Guerrero (2009)

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Appendix A (continued)

Ho et al. (2012)

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Appendix A (continued)

Kachadourian et al. (2004)

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Appendix A (continued)

Keelan et al. (1998)

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Appendix A (continued)

Lussier et al. (1997)

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Appendix A (continued)

Marchand (2004)

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Appendix A (continued)

Meyers and Landsberger (2002)

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Appendix A (continued)

Morrison et al. (1997)

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Reizer et al. (2010)

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Scheeren et al. (2014)

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Appendix A (continued)

Sierau & Herzberg (2012)

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Appendix A (continued)

Sümer & Cozzarelli (2004)

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Appendix A (continued)

Timm & Keiley (2011)

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**Appendix B***Mediation models used in the different studies*

Study	Mediation models used
Berant et al. (2003)	Regression; Baron & Kenny (1986); Actor effects
Brassard et al. 2009	Structural equation modelling; Bootstrapping; Actor effects; Partner effects
Cann et al. (2008)	Regression; Bootstrap sampling method; Actor effects
Chung (2014)	Structural equation modelling; Actor effects
Cobb et al. 2001	Structural equation modelling (SEM); Bentler's (1995) EQS program; Actor effects; Partner effects
Davila et al. 1998	Structural equation modelling; Bentler's (1995) EQS program; Actor effects; Partner effects
Feeney, 1994	Regression; Baron & Kenny (1986); Actor effects
Feeney, 1999	Regression; Baron & Kenny (1986); Actor effects
Feeney, 2002	Regression; Baron & Kenny (1986); Actor effects
Frei & Shaver (2002)	Regression; Actor effects
Gallo & Smith, 2001	Regression; Baron & Kenny (1986); Actor effects; Partner effects
Guerrero, 2009	Structural equation modelling; Baron & Kenny (1986); Actor effects
Ho et al. (2012)	Structural equation modelling; EQS 6.1; Sobel test; actor effects
Kachadourian et al., 2004	Structural equation modelling; Sobel test; Actor effects
Keelan et al. (1998)	Regression; Baron & Kenny (1986); Actor effects
Lussier et al., 1997	Regression; Baron & Kenny (1986); Actor effects

Marchand, 2004	Regression; Baron & Kenny (1986); Actor effects
Meyers and Landsberger (2002)	Regression; Baron & Kenny (1986); Actor effects
Morrison et al. (1997)	Regression; Baron & Kenny (1986); Actor effects
Reizer et al., 2010	Actor-Partner Interdependence Model (APIM); Sobel test; Actor effects; Partner effects
Scheeren et al., 2014	Regression; Baron & Kenny (1986); Sobel test; Actor effects
Sierau & Herzberg, 2012	Actor-Partner Mediator Model (APMeM); Sobel test; Actor effects; Partner effects:
Sümer & Cozzarelli (2004)	Structural equation modelling; Baron & Kenny (1986)
Timm & Keiley (2011)	Structural equation modelling; Baron & Kenny (1986)

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**Appendix C:** *Ethics approval*

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## **Appendix D: Participant information sheet**

### **Information about the research**

#### **Satisfaction with romantic relationships study**

Hello. My name is Dr Olivia Bolt and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide it is important that you understand why the research is being done and what it would involve for you.

Talk to others about the study if you wish.

(Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study).

#### **What is the purpose of the study?**

The purpose of this study is to find out more about what makes people satisfied with their romantic relationships. The results of the study may help supporting couples with relationship difficulties in the future.

#### **Who can take part?**

Couples who have been in a romantic relationship for at least 3 months and have face-to-face contact at least 5 days a week. Both partners in the couple should be at least 18 years old.

#### **Do I have to take part?**

It is up to you to decide to join the study. If you agree to take part, you will be asked to give consent. You are free to discontinue the study without giving any reason.

#### **What will happen to me if I take part?**

You and your partner will complete an online survey once. You will be asked to complete the survey separately from your partner and are asked not to discuss the answers you are providing until both have completed the survey. Completion of the survey takes about 20 minutes. The survey involves questions about how you perceive your relationship with your partner and how you relate to other people and to yourself. The results of your survey will be sent online to us in an anonymised way.

#### **Expenses and payments**

Between the participants an Amazon voucher (£50) will be raffled.

#### **What will I have to do?**

You and your partner will complete an online survey on how you perceive your romantic relationship. The survey will also ask you to complete questions on how you relate to people and to yourself.

#### **What are the possible disadvantages and risks of taking part**

Answering questions about your romantic relationship might possibly be upsetting, for example, if you are unhappy in your relationship. If you feel upset during the completion of the survey, you are always free to discontinue the survey. Should you continue to feel distressed you can contact the Samaritans on 08457 90 90 90 (<http://www.samaritans.org/>), or Relate on 0300 100 1234 (<http://www.relate.org.uk/home/index.html>).

#### **What are the possible benefits of taking part?**

We cannot promise that the study will help you, but the information we get from this study might help supporting couples with relationship difficulties in the future.

#### **What if there is a problem?**

Any complaint about the study or any possible distress you might suffer will be addressed. The detailed information on this is given in Part 2.

**Will my taking part in the study be kept confidential?**

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1.

If the information in Part 1 has interested you and you are considering participation, please click here to read the additional information in Part 2 before making any decision.

**Part 2 of the information sheet****What will happen if I don't want to carry on with the study?**

If you want to stop completion of the online survey whilst answering the questions, you are free to do so, without any negative consequences. This data will not be used in the study. We will keep the data in a completely anonymised form only. The data collection of the study will be running till February 2015. Until then it will be possible to withdraw your data from the study. Once the data collection has finished, the data will be analysed and it will be published in an international scientific journal. Once the data has been analysed, it will no longer be possible to withdraw from the study.

**What if there is a problem?****Complaints**

If you have a concern about any aspect of this study, you should ask to speak to me (Dr. Olivia Bolt) and I will do my best to answer your questions (Call: 01892 507673). If you remain unhappy and wish to complain formally, you can do this by contacting, Dr. Paul Camic, Department of Applied Psychology, Canterbury Christ Church University, Broomhill Road, Tunbridge Wells, Kent TN3 0TG.

**Will my taking part in this study be kept confidential?**

The results of the survey will be sent online to us in an anonymised form. The main researcher (Dr. Olivia Bolt), as well as her supervisors (Dr. Chris Irons and Dr. Fergal Jones) will have access to the data.

**What will happen to the results of the research study?**

We plan to publish the results of this study in an international scientific journal. If you are interested in the results of the study, we are happy to send you a short report of the results in lay language and / or a copy of the paper (whatever you prefer).

**Who is organising and funding the research?**

The study is organised by the Canterbury Christ Church University.

**Who has reviewed the study?**

This study has been reviewed and given favourable opinion by Canterbury Christ Church Research Ethics Committee.

**Further information and contact details**

If you would like to speak to me and find out more about the study or would like to have questions about it answered, you can leave a message for me on a 24-hour voicemail phone line at 01892 507673. Please say that the message is for me, Dr Olivia Bolt, and leave a contact number so that I can get back to you. Alternatively, you can contact me on [ocb1@canterbury.ac.uk](mailto:ocb1@canterbury.ac.uk).



**Appendix E: Consent form****CONSENT FORM**

Title of Project: Satisfaction with romantic relationships study

Name of Researcher: Dr. Olivia Bolt

Please initial box

1. I confirm that I have read and understand the information about the satisfaction with romantic relationships study.

2. I understand that my participation is voluntary and that I am free to discontinue the survey at any time without giving any reason.

3. I consent to the processing of my anonymised data for the purpose explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998.

4. I confirm that I have been in a romantic relationship for at least 3 months.

5. I confirm that I am at least 18 years old.

6. I confirm that I have face-to-face contact with my partner at least 5 days a week.

7. I agree to take part in the above study.

**Appendix F:** *Gender as moderator of indirect and direct effects in mediation model*

<b>Model a</b>	Coefficient	<i>p</i>	BC CI
Outcome: Self-compassion			
Gender	-.1599	.4007	(-.5337, .2139)
Anxiety x gender	.0151	.1555	(-.0058, .0359)
Avoidance x gender	.0103	.4449	(-.0163, .0369)
Outcome: Partner compassion			
Gender	.0412	.7312	(-.1947, .2771)
Anxiety x gender	-.0130	.0522	(-.0262, .0001)
Avoidance x gender	-.0155	.0704	(-.0323, .0013)
Outcome: Relationship quality			
Gender	1.5418	.0730	(-.1443, 3.2280)
Anxiety x gender	-.0072	.5017	(-.0281, .0138)
Avoidance x gender	.0103	.4449	(-.0163, .0369)
Self-compassion x gender	-.0636	.5292	(-.2623, .1350)
Partner compassion x gender	-.2552	.1352	(-.5903, .0800)
Index*			
Indirect effects			
Self-compassion	.0008		(-.0020, .0051)
Partner compassion	.0026		(-.0229, .0278)
<b>Model b</b>			
Outcome: Self-compassion			
Gender	-.1599	.4007	(-.5337, .2139)

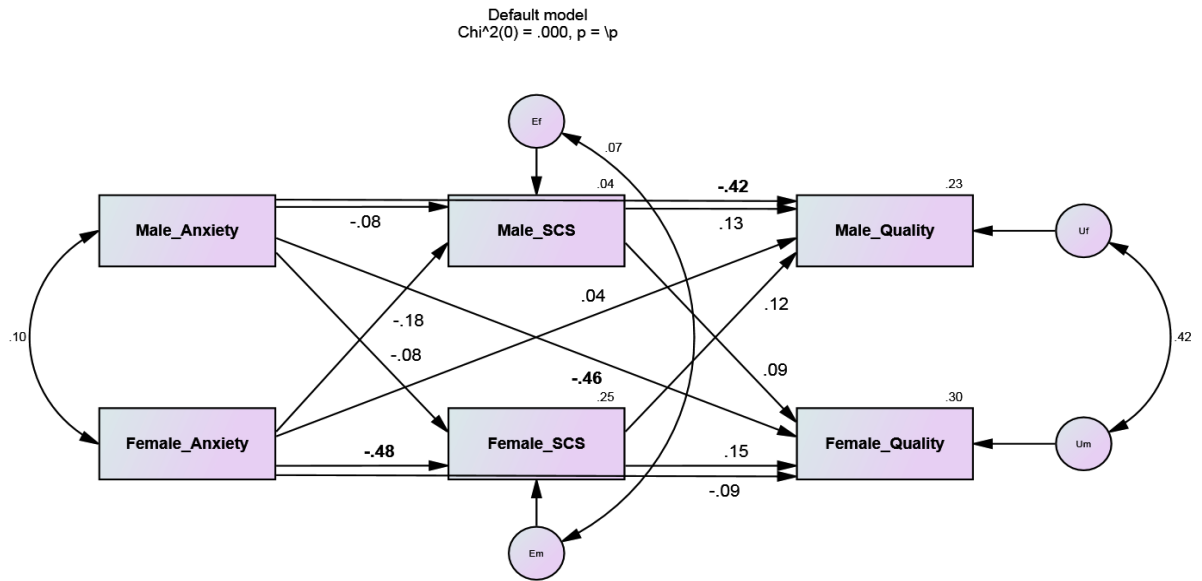
Anxiety x gender	.0151	.1555	(-.0058, .0359)
Avoidance x gender	.1411	.3842	(-.1775, .4598)
Outcome: Partner compassion			
Gender	.0412	.7312	(-.1947, .2771)
Anxiety x gender	-.0130	.0522	(-.0262, .0001)
Avoidance x gender	-.0155	.0704	(-.0323, .0013)
Outcome: Relationship satisfaction			
Gender	3.6579	.6175	(-10.7363, 18.0520)
Anxiety x gender	-.1612	.1403	(-.3757, .0533)
Avoidance x gender	.1411	.3842	(-.1775, .4598)
Self-compassion x gender	-.6369	.5532	(-2.7478, 1.4739)
Partner compassion x gender	.6783	.6396	(-2.1686, 3.5252)
	Index*		
Indirect effects			
Self-compassion	-.0011		(-.0339, .0374)
Partner compassion	-.1555		(-.4262, .1042)

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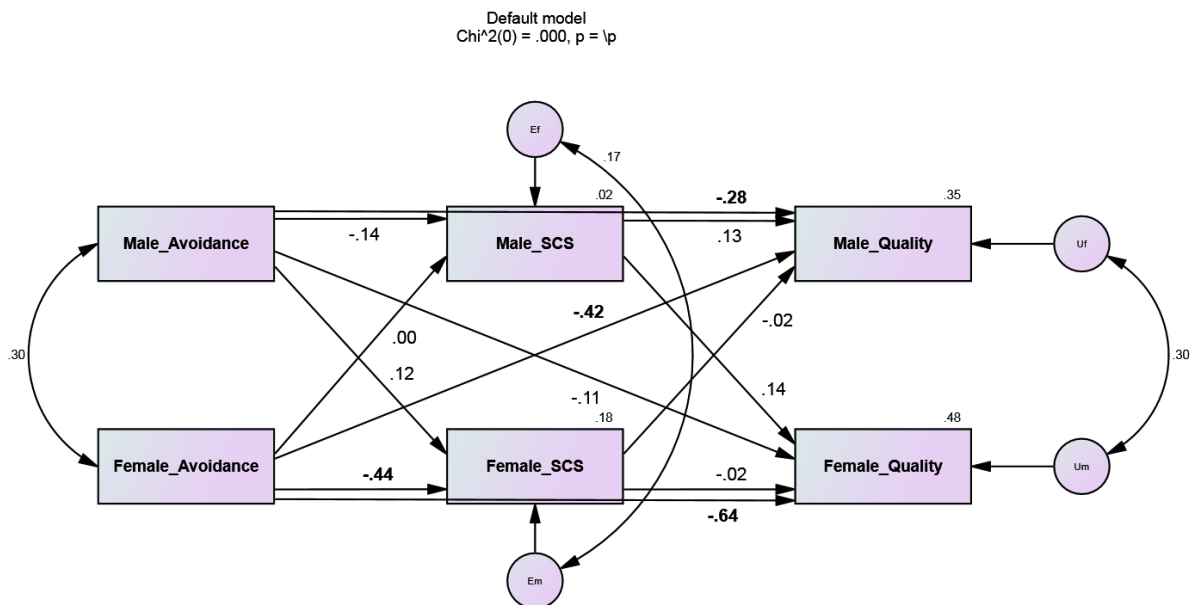
*Note.* BC CI = Bias Corrected Confidence Intervals; \* Index of moderated mediation. This is a test of equality of the conditional effects in the two groups

**Appendix G: APIMeM models not included in Section B**

Anxiety, Self-compassion (SCS), Relationship quality

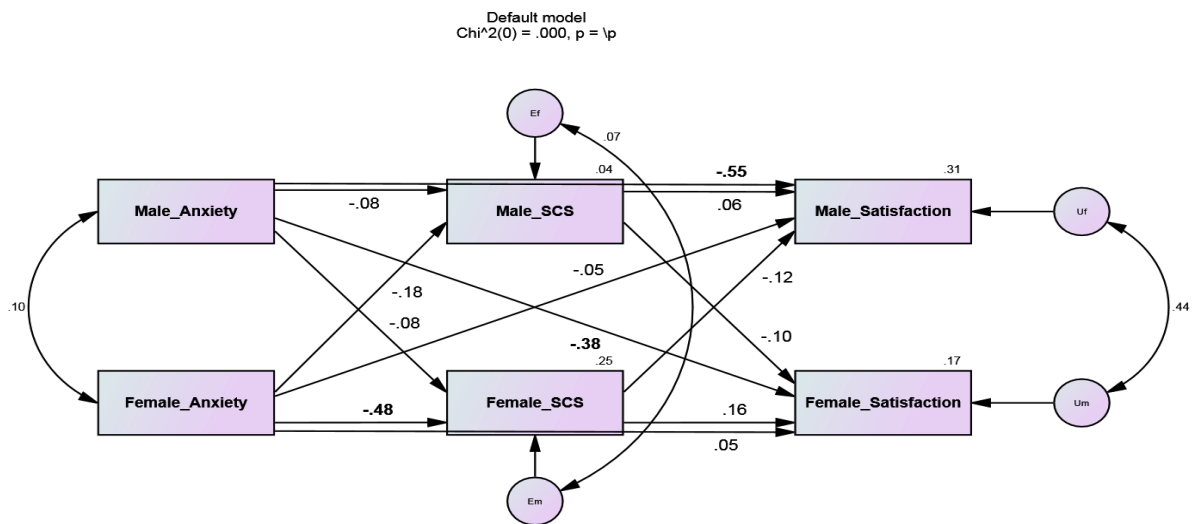


Avoidance, Self-compassion (SCS), Relationship quality

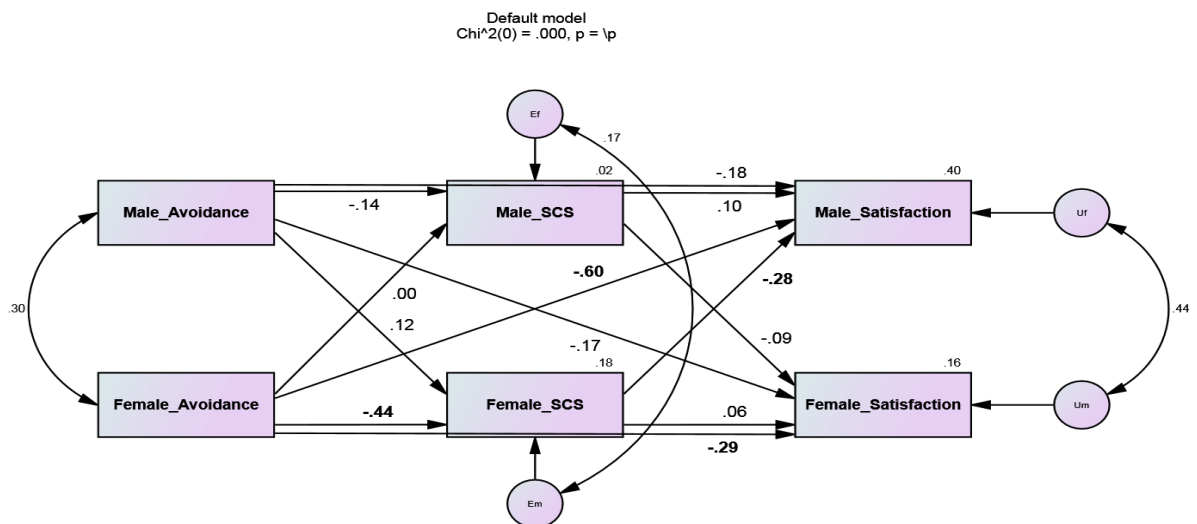


Appendix G (continued)

Anxiety, Self-compassion (SCS), Relationship satisfaction

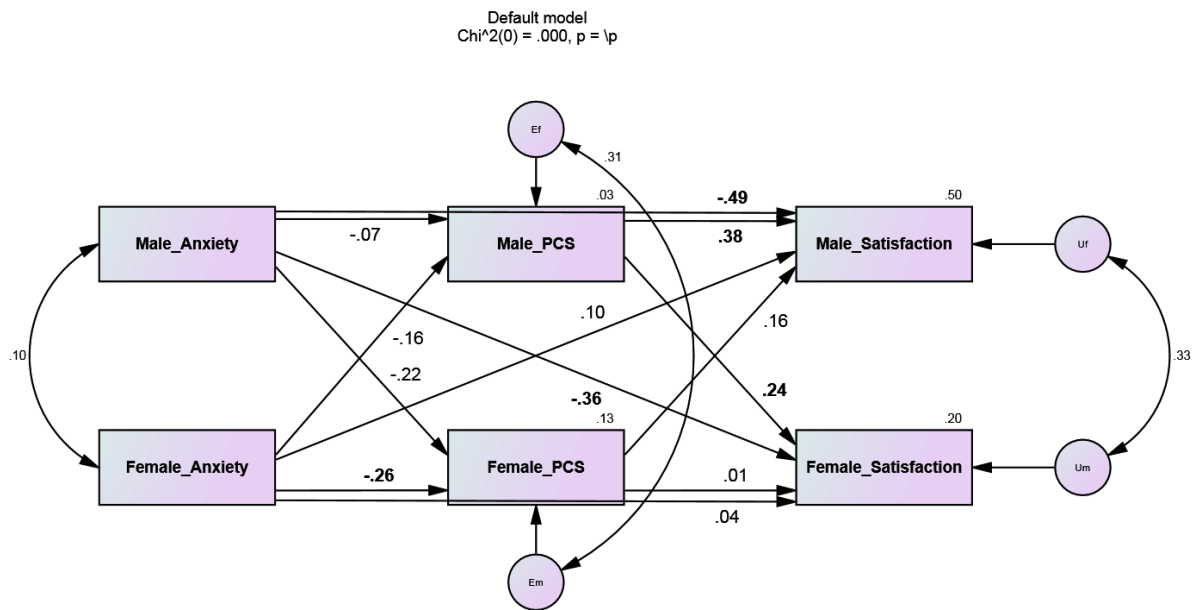


Avoidance, Self-compassion (SCS), Relationship satisfaction

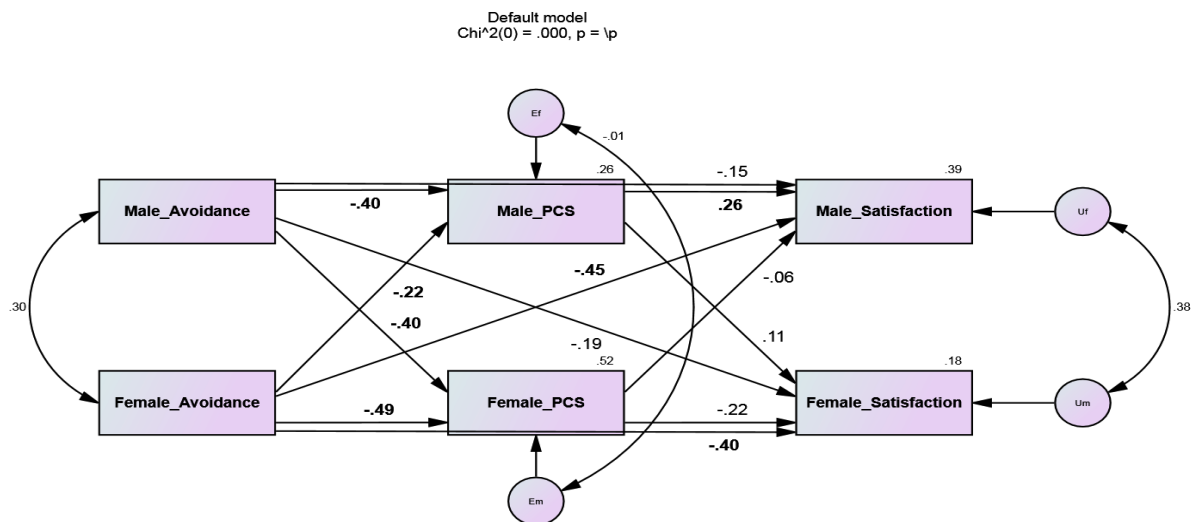


Appendix G (continued)

Anxiety, Partner Compassion, Relationship Satisfaction



Avoidance, Partner compassion, Relationship Satisfaction



**Appendix H:***Simple indirect effects, direct, and total effects for partner compassion and satisfaction*

Model	Estimate	95% CI
<b>Anxiety</b>		
<b>Simple Indirect effects</b>		
Male anxiety -> Male PCS -> Male RS	-.026	(-.192, .044)
Male anxiety -> Male PCS -> Female RS	-.017	(-.170, .023)
Male anxiety -> Female PCS -> Female RS	-.002	(-.112, .101)
Male anxiety -> Female PCS -> Male RS	-.036	(-.206, .011)
Female anxiety -> Female PCS -> Female RS	-.003	(-.073, .075)
Female anxiety -> Female PCS -> Male RS	-.039	(-.129, .004)
Female anxiety -> Male PCS -> Male RS	-.057	(-.203, .010)
Female anxiety -> Male PCS -> Female RS	-.037	(-.160, .007)
<b>Direct effects c'</b>		
Male actor direct effect	-.506**	(-.707, -.095)
Female actor direct effects	.035	(-.155, .236)
Male to female partner direct effect	-.397*	(-.688, -.276)
Female to male partner effect	.095	(-.036, .245)
<b>Total effects</b>		
Male actor total effect	-.568**	(-.799, -.083)
Female actor total effect	-.004	(-.185, .193)
Male to female partner total effect	-.416*	(-.715, -.344)
Female to male partner total effect	-.002	(-.150, .140)
<b>Avoidance</b>		
<b>Simple Indirect effects</b>		
Male avoidance -> Male PCS -> Male RS	-.148	(-.394, .057)
Male avoidance -> Male PCS -> Female RS	-.067	(-.317, .138)
Male avoidance -> Female PCS -> RS	.127	(-.024, .368)
Male avoidance -> Female PCS -> RS	.035	(-.117, .230)
Female avoidance -> Female PCS -> RS	.133	(-.060, .386)
Female avoidance -> female PCS -> Male RS	.037	(-.174, .235)
Female avoidance -> male PCS -> Male RS	-.068	(-.316, .013)
Female avoidance-> male PCS -> Female RS	-.031	(-.252, .051)
<b>Direct effects c'</b>		
Male actor direct effect	-.749	(-.557, .160)
Female actor direct effects	-.285*	(-.952, -.010)
Male to female partner direct effect	-2.685	(-.644, .162)
Female to male partner effect	-.205*	(-.947, -.211)
<b>Total effects</b>		
Male actor total effect	-.318*	(-.568, -.094)
Female actor total effect	-.393 <sup>t</sup>	(-.809, .023)
Male to female partner total effect	-.224	(-.602, .132)
Female to male partner total effect	-.564**	(-.895, -.294)

Note. \*\*  $p < .001$ ; \*  $p < .05$ ; <sup>t</sup> $p < .10$ ; PCS = Partner Compassion; RS = Relationship

Satisfaction

**Appendix I:***Simple indirect effects, direct, and total effects for self-compassion and quality*

Model	Estimate	95% CI
<b>Anxiety</b>		
<b>Simple Indirect effects</b>		
Male anxiety -> Male SCS -> Male RQ	-.001	(-.011, .002)
Male anxiety -> Male SCS -> Female RQ	-.001	(-.009, .002)
Male anxiety -> Female SCS -> Female RQ	-.001	(-.011, .002)
Male anxiety -> Female SCS -> Male RQ	-.001	(-.011, .002)
Female anxiety -> Female SCS -> Female RQ	-.007 <sup>t</sup>	(-.019, .001)
Female anxiety -> Female SCS -> Male RQ	-.006	(-.021, .004)
Female anxiety -> Male SCS -> Male RQ	-.002	(-.012, .001)
Female anxiety -> Male SCS -> Female RQ	-.002	(-.010, .001)
<b>Direct effects c'</b>		
Male actor direct effect	-.051**	(-.075, -.027)
Female actor direct effects	-.009	(-.029, .010)
Male to female partner direct effect	-.052*	(-.072, -.029)
Female to male partner effect	.004	(-.019, .030)
<b>Total effects</b>		
Male actor total effect	-.053**	(-.081, -.029)
Female actor total effect	-.018*	(-.038, .000)
Male to female partner total effect	-.054**	(-.075, -.033)
Female to male partner total effect	-.005	(-.026, .019)
<b>Avoidance</b>		
<b>Simple Indirect effects</b>		
Male avoidance -> Male SCS -> Male RQ	-.003	(-.017, .001)
Male avoidance -> Male SCS -> Female RQ	-.003	(-.014, .001)
Male avoidance -> Female SCS -> Female RQ	.000	(-.007, .002)
Male avoidance -> Female SCS -> Male RQ	.000	(-.008, .003)
Female avoidance -> Female SCS -> Female RQ	.001	(-.009, .010)
Female avoidance -> Female SCS -> Male RQ	.001	(-.011, .014)
Female avoidance -> Male SCS -> Male RQ	.000	(-.007, .007)
Female avoidance-> Male SCS -> Female RQ	.000	(-.006, .006)
<b>Direct effects c'</b>		
Male actor direct effect	-.046*	(-.081, -.015)
Female actor direct effects	-.082*	(-.046, -.054)
Male to female partner direct effect	-.017	(-.108, .011)
Female to male partner effect	-.057*	(-.093, -.023)
<b>Total effects</b>		
Male actor total effect	-.049*	(-.082, -.124)
Female actor total effect	-.081*	(-.640, -.107)
Male to female partner total effect	-.020	(-.291, -.049)
Female to male partner total effect	-.056**	(-.511, -.085)

Note. \*\*  $p < .001$ ; \*  $p < .05$ ; <sup>t</sup> $p < .10$ ; SCS = Self-Compassion; RQ = Relationship Quality



**Appendix J:***Simple indirect effects, direct, and total effects for self-compassion and satisfaction*

Model	Estimate	95% CI
<b>Anxiety</b>		
<b>Simple Indirect effects</b>		
Male anxiety -> Male SCS -> Male RS	-.005	(-.068, .014)
Male anxiety -> Male SCS -> Female RS	.008	(-.020, .092)
Male anxiety -> Female SCS -> Female RS	-.013	(-.110, .020)
Male anxiety -> Female SCS -> Male RS	.009	(-.019, .103)
Female anxiety -> Female SCS -> Female RS <sup>†</sup>	-.076	(-.210, .007)
Female anxiety -> Female SCS -> Male RS	.054	(-.041, .182)
Female anxiety -> Male SCS -> Male RS	-.011	(-.080, .012)
Female anxiety -> Male SCS -> Female RS	.017	(-.014, .116)
<b>Direct effects c'</b>		
Male actor direct effect	-.572*	(-.781, -.089)
Female actor direct effects	.054	(-.147, .278)
Male to female partner direct effect	-.411*	(-.710, -.089)
Female to male partner effect	-.045	(-.235, .133)
<b>Total effects</b>		
Male actor total effect	-.568**	(-.799, -.344)
Female actor total effect	-.004	(-.185, .193)
Male to female partner total effect	-.416*	(-.715, -.083)
Female to male partner total effect	-.002	(-.150, .140)
<b>Avoidance</b>		
<b>Simple Indirect effects</b>		
Male avoidance -> Male SCS -> Male RS	-.019	(-.125, .010)
Male avoidance -> Male SCS -> Female RS	.018	(-.012, .151)
Male avoidance -> Female SCS -> Female RS	.010	(-.017, .108)
Male avoidance -> Female SCS -> Male RS	-.047	(-.174, .076)
Female avoidance -> Female SCS ->Female RS	-.032	(-.171, .454)
Female avoidance -> Female SCS -> Male RS	.146*	(.048, .288)
Female avoidance -> Male SCS -> Male RS	.000	(-.049, .051)
Female avoidance-> Male SCS -> Female RS	.000	(-.042, .040)
<b>Direct effects c'</b>		
Male actor direct effect	-.252*	(-.484, -.017)
Female actor direct effects	-.360	(-.846, .081)
Male to female partner direct effect	-.253	(-.635, .061)
Female to male partner effect	-.710**	(-1.064, -.017)
<b>Total effects</b>		
Male actor total effect	-.318*	(-.568, -.094)
Female actor total effect	-.393 <sup>†</sup>	(-.809, .023)
Male to female partner total effect	-.224	(-.602, .132)
Female to male partner total effect	-.564**	(-.895, -.294)

Note. \*\*  $p < .001$ ; \*  $p < .05$ ; <sup>†</sup> $p < .10$ ; SCS = Self-Compassion; RS = Relationship Satisfaction

**Appendix K:**

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**Appendix L:**

*Self-Compassion Scale (SCS)*

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**Appendix M:**

**Partner Compassion Scale**

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**Appendix N:**

**Partner Behaviour as Social Context**

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**Appendix O:**

Couples Satisfaction Index (CSI-16)

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**Appendix P:**

*Socio-demographic questionnaire*

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**Appendix Q:**

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**Appendix R:***Research summary for ethics and study participants*

Dear study participant,

Many thanks again for taking part in the „Satisfaction with romantic relationships study“.

Your help was tremendously appreciated! We have managed to get questionnaires from 342 individuals and 75 couples, which is a great result.

The study investigated how the way people attach to relationship partners influences how happy they are with their relationship. It has been suggested that people vary with regards to how much they fear being abandoned by their relationship partner (attachment anxiety) and how much they fear intimacy with their relationship partner (attachment avoidance). In line with previous research, the present study showed that individuals high in attachment anxiety and avoidance reported lower levels of relationship satisfaction.

The study further examined whether people high in attachment anxiety and avoidance found it more difficult to be compassionate to themselves and their partners and whether this impacted negatively on their relationship satisfaction. Compassion has been defined as the motivation to engage with and be sensitive to suffering, the ability to be emotionally moved by what one attends to or experiences, as well as the display of distress tolerance, empathy, and non-judgment. The study showed that individuals high in avoidant attachment were less compassionate to their partners and this in turn made them less happy in their relationship. Self-compassion did not appear to play a role. However, in a tentative further analysis it showed that people high in attachment anxiety and avoidance were less able to be

compassionate to themselves, which made them less able to be compassionate to their partner. This again had a negative impact on relationship satisfaction.

The study was also interested to find out how attachment style and the ability to be compassionate influenced the partner in a couple relationship. It showed that women who were highly anxious showed less partner compassion to their partners and this appeared to make the male partners less happy in the relationship. Male partners of highly avoidant women, showed less partner compassion and this appeared to make the men less satisfied in their relationship.

The results overall indicated that compassion for the partner and the self might play a role in couple relationships. Enhancing compassion might be helpful in reducing couple distress. It is important to keep in mind that the study assessed all variables (attachment, compassion and relationship satisfaction) at one time point and it is therefore difficult to know how they relate to each other causally. Further research is needed to shed more light on this.

Many thanks again for taking part in this research. Please do not hesitate to contact me should you have any further questions ([ocb1@canterbury.ac.uk](mailto:ocb1@canterbury.ac.uk)). If you indicated that you are interested in receiving a copy of the scientific paper, you will receive this as soon as it will be published.

Yours sincerely, Olivia Bolt