

**HE LOVES ME... HE LOVES ME NOT:  
UNDERSTANDING RELATIONSHIP SECURITY**

by

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A thesis submitted to the Faculty of the University of Delaware in partial  
fulfillment of the requirements for the degree of Master of Arts in Psychology

Spring 2018

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## **ACKNOWLEDGMENTS**

I would like to thank my thesis advisor Dr. Lisa Jaremka for fully supporting me throughout this process. I have gained invaluable analytical skills that I will use for years to come.

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## **ABSTRACT**

People have a fundamental need to belong (Baumeister & Leary, 1995). This need is not unlike hunger and thirst, if it goes unfulfilled people's wellbeing suffers (Leary & Baumeister, 2000). Therefore, it is crucial to understand how people develop and maintain their affiliations, specifically romantic relationships. A key ingredient for thriving high quality connections is relationship specific felt security. Prior research has determined some sources of information that people use when evaluating the security of their relationship. However, there are still some unexplored possibilities. The current paper utilized secondary analyses of 2 existing datasets to investigate whether people use emotional support provision from their romantic partner as diagnostic information when evaluating the security of their relationship. Further, I investigate if this connection is partially explained by emotional support conveying that the partner is responsive and caring (i.e., people perceive their partner as responsive). I found evidence in support of these hypotheses across 2 studies that utilize different methods. Overall, people who receive more emotional support from their partner also perceive their partner as being more responsive. In turn, perceived partner responsiveness predicts relationship specific felt security.



## Chapter 1

### **INTRODUCTION**

People have an innate need to establish deep, meaningful connections with those around them (Baumeister & Leary, 1995; Leary & Baumeister, 2000). Further, as people mature, the romantic relationship becomes a primary and invaluable affiliation for most people (Rauer, Pettit, Lansford, Bates, & Dodge, 2013). Thus, the quality and security of the romantic bond may be particularly important for a person's health and well-being. For instance, high quality relationships in which people feel loved and cared for are health protective. Those with strong social connections tend to develop less physical and mental health issues, consequently living longer than those with low quality relationships (Holt-Lunstad, Smith, & Layton, 2010; Robles, Slatcher, Trombello, & McGinn, 2014; Uchino, 2009; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Unfortunately, developing and maintaining confidence in the perception of trust in a romantic partner's love and care can be difficult (Murray, Holmes, & Griffin, 2000).

#### **Why is Relationship Specific Felt Security Important?**

Cultivating this high quality trust between partners is a tricky endeavor in every relationship due to the ongoing tension between self-protection goals and relationship-promotion goals (Murray, 2005). When dependency increases in relationships, the risk of rejection and the potential pain of the loss of the relationship also increases (Holmes,

2002). Accordingly, people may behave cautiously to protect themselves from this possible social pain, but in turn, the resulting vigilance can diminish closeness between partners. According to risk regulation theory, to set aside self-protection goals, a person must feel that the risk of rejection is low and that one is highly valued by their partner (Murray, Holmes, & Collins, 2006). In other words, people want to be confident in the security of their relationship before putting aside their self-protective goals (i.e. before increasing dependency). Once a person is certain about their perceptions of the security of their relationship, a cognitive switch is triggered, allowing a person to focus on relationship-promotion goals instead of self-protection goals (Murray, Griffin, Rose, & Bellavia, 2003; Murray et al., 2000). In this situation a person trusts that the benefits of being in a mutually dependent relationship outweigh the potential future risks (e.g. rejection and pain of loss). For example, when John perceives his relationship to be secure, he is more likely to engage in behaviors that maintain dependency on Sarah. For instance, instead of withholding self-disclosure to avoid possible rejection in the future, he will be open and honest about his insecurities or weaknesses because he is confident that Sarah will console him. High quality romantic relationships involve a high degree of dependency in which each partner influences or constrains one another's actions and emotions (Kelley, 2013). Thus, relationship specific felt security or confidence in a partner's love and care is a key ingredient for high quality relationships to thrive.

Maintaining this mindset change (from self-protection goals to relationship promotion goals) facilitates behaviors that sustains the affiliation bond by discounting or reframing any threats to the security of the relationship (Holmes & Rempel, 1989). One such behavior is a tendency to make situational attributions for a partners behaviors

instead of dispositional attributions (Rusbult & Buunk, 1993) For example, imagine that Sarah is late for a dinner date. There are many possible attributions for Sarah's behavior, which vary in the degree to which they foster versus hinder a relationship. On the one hand, John could make a dispositional attribution of her behavior by thinking that she is inconsiderate and always late to notable events. On the other hand, John could blame Sarah's lateness on traffic, thus making a situational attribution of her behavior. Those who feel secure in their relationship are more likely to make these situational attributions for their partner's negative behaviors, which has positive consequences for the longevity and health of the relationship.

People are also more willing to sacrifice for their partner once they feel secure in their relationship (Murray et al., 2006a). This is the act of disregarding self-interests to support the relationship's or the partner's welfare, it can be gratifying when it contributes to a shared goal between partners (Van Lange et al., 1997). However, due to inherent costs, sacrificing for a partner is only a positive experience in specific contexts (e.g. when the partner appreciates the sacrifice). The way that people evaluate if they should set aside self-interests to sacrifice for their partner is by first assessing how secure they perceive their relationship to be at that time. Those that feel secure in their relationship will also respond with increased willingness to sacrifice compared to those who feel less secure in their relationship (Murray, Holmes, & Collins, 2006b). For example, if John acquired a job in a new city, Sarah would be more likely to move with him if she felt confident in John's love for her. Whereas if she was not confident in her perceptions of how secure the relationship was, she would be unwilling to take this risk.

Security in romantic relationships also fosters communal relationship norms that aid in maintaining connections between partners. People who feel more secure in their relationship feel relationally closer to their partner compared with those who have a lower sense of security (Murray et al., 2006b). Consequently, communal relationship norms are bolstered rather than exchange relationship norms among people who feel secure (Clark & Mills, 1993). Those in communal relationships express general concern for their partners' welfare by providing benefits specific to the other's needs without any expectation of reciprocation. This ideal altruism cultivates an intense bond and mutual care for one another. In exchange relationships when a benefit is provided, a debt is created with anticipated reciprocation (Clark & Mills, 1993). Thus, this type of behavior does not foster support or closeness. People in secure relationships are more likely to follow communal relationship norms, which helps maintain a long-lasting connection. This is most likely since communal relationships are grounded in behaviors that supports one another's welfare, instead of the tit-for-tat strategy used in exchange relationships.

In sum, feeling secure in a relationship leads people to behave in ways that contribute to the longevity of the affiliation. Specifically, felt security promotes relationship maintenance behaviors, including making situational attributions for a partners behavior, being willing to sacrifice for the partner, and utilizing communal relationship norms.

### **How do People Determine Whether They Feel Secure in Their Relationship?**

As described above, feeling secure in a relationship fosters many positive outcomes, thus, it is crucial to understand how people conclude that they are confident in

their perceptions of their partner's love towards them. One way to understand a partner's regard towards the self is by examining capitalization attempts within the relationship. The way that a partner acts in specific situations provides diagnostic information that offers insight into the partner's goals, motives, and values (Holmes & Rempel, 1989). Capitalization is the act of involving a spouse in celebrating positive outcomes (Gable & Reis, 2001). Many studies have shown that sharing positive news with a partner is related to feelings of security and closeness, particularly when the partner expresses joy in return (Langston, 1994; Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991; Tesser, 1999). When a spouse responds to shared good news with joy, rather than jealousy, the individual detects that the spouse holds similar values and motives as themselves. Those who have partners who are responding with congruent feelings when sharing news, likely feel more secure in their relationship as a consequence compared to people who respond with incongruent feelings. Thus, capitalization could be utilized as diagnostic criteria of how confident a person is in their perceptions of security in their relationship because it is one indication of similar perceptions between partners.

People also use information about conflict in their relationship when evaluating the security of their relationship (Reis & Rusbult, 2004). All relationships involve conflict; however the way that conflict is dealt with between partners is important (Reis & Rusbult, 2004). When communication is open and partners exchange constructive criticism, couples can resolve their issues, leaving individuals feeling confident about their partner's feelings towards the self (Kobak & Hazan, 1991). However, when partners have contradicting perspectives regarding how needs should be accommodated or met, then people are left feeling unsure about the security of the relationship. People are

continually re-evaluating whether they feel secure in a relationship by using multiple sources of information.

One understudied way of understanding felt security is by evaluating how supportive a partner is towards their spouse during stressful times. Theoretically, support provided by a partner should offer diagnostic information about how secure a person feels in a relationship. Take into consideration that the investment of providing support can be potentially costly and risks personal deficits (Tooby & Cosmides, 1996). Imagine that John received an unfavorable performance review at work, which means that his chances for promotion are diminished. This blow to his confidence leads him to call his wife, Sarah, to seek emotional support. She halts her busy day to discuss what went wrong for an hour with John and ensures that he is okay. Theoretically, when Sarah provides this type of support it shows that she genuinely cares about John's emotional well-being (Collins, Guichard, Ford, & Feeney, 2006). Thus, Sarah providing emotional support produces the opportunity for her to prove to John that her care is genuine and that she is looking out for his well-being. This should lead John to feel more confident that Sarah's love is authentic. In other words, the support that Sarah provides should be diagnostic evidence that helps John conclude that he feels secure in the relationship.

However, the person receiving the support must also interpret their partners' efforts of providing support. Receiving high quality emotional support provides information that you are valued, cared for, and understood – in other words, it lets you know that your partner is responsive to your needs (Maisel & Gable, 2009; Reis, Clark, & Holmes, 2004). Responsiveness not only involves (1) the behaviors of the partner that is providing support, but also (2) the perceptions of the partner that is receiving support.

Responsive emotional support provision encompasses recognition and acceptance of the other person, while maintaining, enhancing, or repairing their well-being (Maisel & Gable, 2009; Reis et al., 2004). For example, when Sarah spoke with John on the phone about not receiving his promotion, Sarah recognized John's needs. She understood that John needed someone to vent to about what had just happened at work. Thus, she allowed John to talk to her, even though she didn't have the time. Further, she attempted to repair his well-being by reassuring him that this was just a small bump in the road and everything would work out. John recognized her support as being responsive and realized that he could still accomplish his goals in the face of this adversity. Sarah's ability to instill confidence in John during a time of need, lead him to feel that Sarah's love for him is genuine.

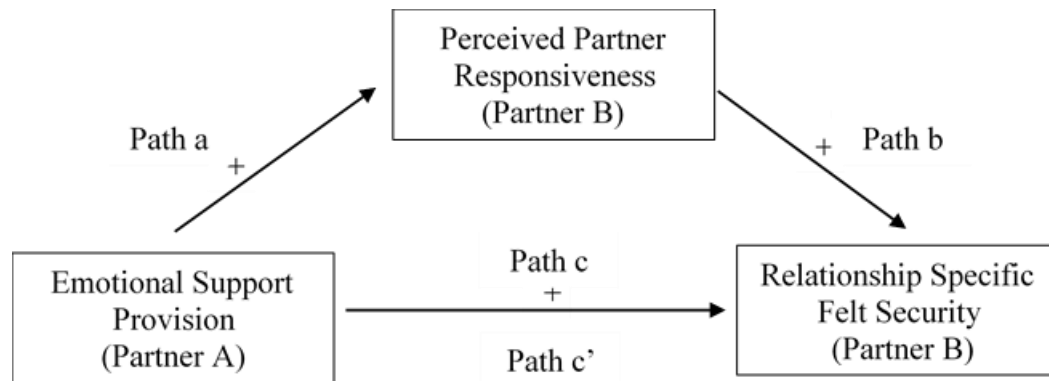
### **The Current Investigation**

The goal of the current studies was to determine if emotional support is a diagnostic criteria people use to determine how secure they feel in their romantic relationship, and whether the relationship between social support and felt security was partially explained by perceived partner responsiveness, see Figure 1. To accomplish this goal, I conducted secondary analyses for 2 multi-method studies. During Study 1a, long-term romantic couples (primarily married adults) completed a series of questionnaires about themselves and their relationships. The goal of this study was to get an initial glimpse into Figure 1 by examining partner's reports of emotional support provision, recipient's perceptions of that support (i.e., perceived partner responsiveness), and felt security at a global level, using measures of chronic support and felt security. However, I

recognize that these constructs may be hard to distinguish at a global level. In other words, it is possible that reporting perceptions of responsive support and high levels of relationship specific felt security might just reflect a global positive perception of a relationship partner. To address this concern, I performed a confirmatory factor analysis on these data to assess if felt security and perceived partner responsiveness are two distinct constructs at the global level. The results support that they are two distinct constructs, the full details of the confirmatory factor analyses are in Appendix F. Further, I significantly extend these data with Study 1b; the same participants as Study 1a also attended a lab visit where one member of the couple completed a stressful task. Couple members were left alone together after the speech, providing an opportunity for support provision. Couples' interactions were videotaped and coded for emotional support provision, and the speechgivers situation-specific perceptions of responsive support and relationship security were measured towards the end of the study.



Figure 1 Proposed Model



*Note.* “Emotional Support Provision” is operationalized in multiple ways across the studies. In Study 1a and 2a, I rely on the partner’s report of their support provision. In Study 1b, I use independent coder ratings of the partner’s support provision after a stressful task. I also separately operationalize support provision via the partner’s reports of their support provision after the stressful task. Finally, in Study 2b, I used a behavioral checklist of supportive behaviors completed by the partner. Finally, Partner A and B will be referred to throughout the paper and always correspond to this figure.

### Study 1a: Concurrent

Study 2a was a conceptual replication of Study 1a, but with a different sample (younger dating rather than older married couples) to see whether the results of Study 1a replicated with a different sample. Both couple members completed questionnaires about themselves and their relationship. Again, because it may be difficult to distinguish perceived partner responsiveness and felt security at the global level, I performed a confirmatory factor analysis on these data to assess if felt security and perceived partner responsiveness are two distinct constructs at the global level. The results support that they are two distinct constructs, the full details of the confirmatory factor analyses are in Appendix F. Further, the same couples completed a 21-daily diary. Thus, Study 1b and

Study 2b provide a crucial test of my conceptual model because they utilize situation specific measures, rather than global ones.

For almost all of the analyses, we utilized a hierarchical linear modeling approach with a couple specific random intercept. The couple-specific random intercept accounted for the dependency inherent in the dyadic data. However, in some rare instances when the inclusion of the random intercept did not allow the analyses to converge, it was removed. I suspect that this was due to the lack of significant variation around the fixed slope, thus, the random intercept was removed.

Across Studies 1a, 1b, 2a, and 2b I wanted to ensure that the links in the conceptual model weren't driven by potential confounds – constructs that are theoretically relevant to social support, perceived partner responsiveness, and felt security. Thus, I conducted two sets of analyses. The first examined each path in the model without any covariates included. The second added conflict, age, anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety, and years married as covariates due to their theoretical and empirical relevance to the constructs of interest (Kane, Jaremka, Guichard, Ford, Collins, Feeney, 2007; Derrick & Murray, 2007; Feeney & Collins, 2001; Murray, Holmes, & Collins, 2006c; Murray, Holmes, & Griffin, 1996; Murray et al., 2000; Murray, Holmes, Griffin, Bellavia, & Rose, 2001; Reis & Rusbult, 2004)

## Chapter 2

### RESULTS

#### Study 1a: Global Cross-Sectional

##### Overview and Hypotheses

The purpose of these secondary analyses of an existing dataset was to investigate whether emotional support provided by a romantic partner is used as diagnostic information to evaluate how secure people feel in their romantic relationship, at the global level. Further, I examined if perceived partner responsiveness partially explained that relationship. I hypothesized that people (Partner B) whose partners (Partner A) reported providing more emotional support will feel more secure in their relationship than those whose partners report providing less emotional support (see Figure 1: path c). I also hypothesize that this is likely because receiving support makes people feel valued, cared for, and understood by their partner. Thus, people (Partner B) whose partners (Partner A) report providing more support should perceive their partner as being more responsive (see Figure 1: path a). Subsequently, people (Partner B) who perceive their partner (Partner A) as more responsive will feel more secure in their relationship relative to people who perceive their partner as less responsive (see Figure 1: path b).

##### Method

**Participants.** Participants were recruited through newspaper advertisements and flyers posted in the Santa Barbara community. To be eligible to participate, both

members of a romantic couple had to be between the ages of 18 and 50, fluent in English, and married or living with their partner for at least a year. The sample consisted of 200 participants (100 romantic couples), the majority of whom were married ( $N = 188$ , with an average age of 33.51 years old ( $SD = 9.39$ ). There were 154 participants self-identifying as white, 1 as African-American, 23 as Latino/a, 11 as Asian, and 9 as other. Two participants did not indicate their ethnicity. All of the couples were heterosexual, with the exception of 2 lesbian couples. Additional sample characteristics are listed in Table 1.

Table 1 Demographic Information

		<u>Male Partners</u> (n=98)	<u>Female Partners</u> (n=102)	<u>Overall Sample</u> (N=200)
	Age, years	34.35 (10.14)	32.70 (8.58)	33.51 (9.39)
	Years Married	6.95 (7.05)	7.31 (7.32)	7.13 (7.17)
Race	White	79	75	154
	African-American	0	1	1
	Latino/a	10	13	23
	Asian	5	6	11
	Other	3	6	9
	Unknown	1	1	2
Relationship Status	Married	93	95	188
	Cohabiting	5	7	12
Education	Grade School	2	0	2
	Junior High	0	1	1
	High School	22	20	42
	AA Degree	11	5	16
	BA Degree	33	46	79
	MA Degree	9	11	20
	Doctorate	5	5	10
	Other	16	13	29
	Unknown	0	1	1

*Note.* Age and years married are reported with their corresponding mean, with the standard deviation in parentheses. All other numbers are raw frequencies of participants in each category.

**Procedure.** Couples arrived at the lab together and each couple member completed several questionnaires about both their own and their partner's behavior in separate rooms (see measures section for details). Next, participants scheduled their second lab visit for approximately one week later, as described in Study 1b.

**Measures – Primary.** At baseline, a 6-item ( $\alpha = .87$ ) measure assessed individuals' perceptions of their own emotional support provision towards their spouse

(see Figure 1: Emotional Support Provision) in a social support context. These items were created by my mentor's previous lab and have been repeatedly used successfully in that lab. Participants were asked to rate how much each statement aligned with the way they usually act when their spouse is upset or experiencing a personal problem. These items were rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Example items include "I am very attentive to my spouse's nonverbal signals for help and support.", "I'm very good at recognizing my spouse's needs and feelings.", and "I sometimes 'miss' or 'missread' my spouse's signals for help and understanding." All items were coded such that higher numbers meant more agreement.

The degree to which an individual perceived their partner's support as responsive was assessed (see Figure 1: Perceived Partner Responsiveness), at baseline, with items that were adapted from other scales (44 items,  $\alpha = .97$ ) (Kunce & Shaver, 1994; Pierce, Sarason, Sarason, Solky-Butzel, & Nagle, 1997; Rini, Schetter, Hobel, Glynn, & Sandman, 2006). These items assessed how understood, cared for, and valued the individual felt their partner made them feel (Maisel & Gable, 2009; Reis et al., 2004). Example items included "When you are feeling down on yourself, to what extent can you rely on support and encouragement from your spouse?" and "I can count on my spouse to comfort me and to help me to feel better." Other items described how attentive the partner was towards the actors needs such as "My spouse is attentive to my nonverbal signals for help and support", and "My spouse can always tell when I need comforting, even when I don't ask for it." All items were coded such that higher numbers reflect more responsiveness. Responses were provided either on 5 or 7-point scales, and thus all items were individually z-scored prior to creating an average composite.

Relationship specific felt security was measured with 12 items ( $\alpha = .92$ ) assessing how much an actor worried about their partner's love and commitment to the relationship (Rempel et al., 1985). This was an adapted scale that my mentor's previous lab created and have repeatedly used successfully. Responses were made on a scale of 1 (strongly disagree) to 7 (strongly agree). Example items are "My spouse makes me feel truly loved and valued," "I can trust my spouse completely," and "I am confident that my spouse will always be committed to our relationship."

**Measures - Covariates.** Multiple potential confounds were selected *a priori* to ensure the associations of interest were not due to person individual differences or characteristics of the romantic relationship. Specifically, at baseline participants completed items assessing demographics (age, gender), person individual differences (anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety), and relationship characteristics (years married, amount of conflict) (Collins et al., 2006; Derrick & Murray, 2007; Feeney & Collins, 2001; Murray et al., 2006b, 1996, 2000, 2001; Reis et al., 2004).

The Brief Symptom Inventory (Derogatis & Melisaratos, 1983) was used to assess anxiety (6 items  $\alpha = .82$ ), depressive symptoms (6 items  $\alpha = .82$ ), and hostility (4 items  $\alpha = .62$ ). All items were measured on a 1 (not at all) to 5 (extremely) scale. Participants were asked to rate how much each item has bothered or distressed them in the past month. Example items include "nervousness or shakiness inside," "feeling worthless" and "temper outbursts you could not control" to assess anxiety, depressive symptoms, and hostility respectively.

The Rosenberg Self-Esteem scale (Rosenberg, 1965) is a 10-item measure used to assess self-esteem ( $\alpha = .89$ ) using a scale from 1 (strongly disagree) to 7 (strongly agree). Example items include “All in all, I am inclined to feel that I am a failure.”, “I am able to do things as well as most other people.”, and “I certainly feel useless at times.” All items are coded such that, higher numbers indicate greater self-esteem.

Neuroticism was measured using the subscale of the Big Five Inventory ( $\alpha = .84$ ) (John & Srivastava, 1999). Participants were asked to rate how much each of 6 items described them in general on a 1 (not like me at all) to 5 (just like me) scale. Example items include “can be tense”, “worries a lot”, and “gets nervous easily”.

A modified version of the Experiences in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000) questionnaire was used to assess attachment anxiety with 11 items ( $\alpha = .80$ ) and attachment avoidance with 18 items ( $\alpha = .76$ ). Participants were asked to indicate how they generally feel in their important close relationships on a scale of 1 (strongly disagree) to 7 (strongly agree). Example items of attachment anxiety include “I worry about being abandoned,” “I worry that people won’t care about me as much as I care about them,” and “I worry a lot about my relationships.” Example items of attachment avoidance are “I prefer not to show people how I feel deep down,” “I feel uncomfortable opening up to others,” and “I try to avoid getting too close to people.”

The amount of conflict in the relationship was measured with 4 items ( $\alpha = .85$ ) on a scale of 1 (almost never/none at all) to 7 (every day/ a great deal). The items were “how often do you and your spouse get on each other’s nerves?”, “How often do you and your spouse have arguments or disagreements?”, “How often does your spouse make you feel angry?”, and “Overall, how much conflict is there in your relationship?”



## **Data Analytic Strategy – Global Cross-Sectional**

**Primary.** The .49 intraclass correlation coefficient for relationship specific felt security indicated dependency in participants' responses within couples. Accordingly, the data were analyzed with linear mixed models using a couple specific random intercept. The conceptual model proposed in Figure 1 reflects a hypothetical causal pathway linking social support provision to felt security. The purpose of these analyses was to establish covariance between each part of the causal pathway, which is a step towards establishing causality (Morling, 2014). Accordingly, I separately examined path a, b, and c using the HLM strategy described above. Specifically, first I assessed path c by examining the relationship between support provision and felt security. Next, I looked at the association between support provision and perceived partner responsiveness to investigate path a. I then assessed path b by determining the association between perceived partner responsiveness and felt security. Finally, I examined path c' by including both support provision, and perceived partner responsiveness as predictors of felt security. However, I am aware that this is not a true test of mediation, these data are a first step to suggest that mediation is likely. A more sophisticated method must be utilized to formally test the mediation model proposed in Figure 1, due to the hierarchical nature of the data. Thus, I am currently learning the technique to utilize structural equation modeling (SEM) to formally test the mediation with an actor-partner interdependence model (APIM). This SEM technique will be utilized for publication purposes.

**Ancillary.** I conducted a series of ancillary analyses to test whether the effects of interest held when controlling for potential confounds. Thus, I repeated the tests of paths a, b, c, and c' described above and added in the following covariates: demographics (age,

gender), individual differences (anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety), and relationship characteristics (years married, amount of conflict).

Further, I examined if the effects of interest were moderated by gender, attachment anxiety, and attachment avoidance. I repeated the tests of paths a, b, c, and c' again as described above separately for each moderation. These results are secondary analyses, thus for sake of brevity, they are described in detail in Appendix A.

## **Results – Global Cross-Sectional**

**Primary.** First, I started by examining the pathway linking social support provision to felt security (see Figure 1: path c). Individuals (Partner B) whose partners (Partner A) reported being more emotionally supportive felt more secure in their relationship compared with those whose partners (Partner A) reported being less emotionally supportive [ $b = .24$ ,  $t(172.63) = 4.58$ ,  $p < .001$ ]. Next, I established the covariance between support provision and perceived responsiveness (see Figure 1: path a). Individuals (Partner B) whose partners (Partner A) reported being more supportive perceived their partners (Partner A) as being more responsive compared with those whose partners (Partner A) reported being less supportive [ $b = .19$ ,  $t(188.65) = 4.99$ ,  $p < .001$ ]. I next determined the association between perceived responsiveness and felt security (see Figure 1: path b). Consistent with my hypotheses, individuals (Partner B) who perceived their partners (Partner A) to be more responsive felt more secure in their relationship compared with those who perceived their partners (Partner A) to be less responsive [ $b = 1.11$ ,  $t(180.85) = 17.87$ ,  $p < .001$ ].

Finally, I assessed the c' pathway by including both support provision, and perceived responsiveness as predictors of felt security (see Figure 1: path c'). Importantly, the effect of support provision on actor felt security (see Figure 1: path c') became non-significant, when both support provision and perceived partner responsiveness were included as predictors of felt security [ $b = .06$ ,  $t(181.88) = 1.59$ ,  $p = .113$ ]. This display of covariance of each pathway is suggestive evidence in support of Figure 1.

**Ancillary.** Next, to rule out possible confounds, I added demographics (age, gender), individual differences (anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety), and relationship characteristics (years married, and amount of conflict) as covariates. Even after accounting for these covariates, all the path a, b, and c associations remained significant, all p-values <.05. Further, the c' path remained non-significant when accounting for the covariates [ $b = .06$ ,  $t(166.60) = 1.67$ ,  $p = .098$ ]. Finally, there was no moderation of gender, attachment anxiety, or attachment avoidance for any of the results (see Appendix A for full details).

## **Study 1b: Lab Manipulation**

### **Overview and Hypotheses**

Study 1a suggested that partners (Partner A) who reported providing more emotional support are perceived as more responsive by their spouse (Partner B); in turn, the spouse (Partner B) feels more secure in the relationship. These results provide preliminary evidence to suggest that emotional support provision and the subsequent perceived responsiveness are diagnostic criteria for an individual's (Partner B) perception

of relationship specific felt security on a global scale. As mentioned previously, these constructs may be hard to distinguish at a global level. Hence, I significantly extend these findings with Study 1b using the same participants as Study 1a. A critical next step is to see if these effects extend to an acute support provision context. In Study 1b, one couple member underwent a stressful task (Partner B), and the other had the opportunity to provide emotional support after the task (Partner A). The same conceptual model in Figure 1 was tested in this study, but this time within an acute situational context. Thus, I predicted that more support (as assessed by Partner A or coders) would be associated with increases in relationship specific felt security (Partner B) and that this effect would be, in part, due to the individual's (Partner B) perception of how responsive their partner (Partner A) is. I operationalized support provision in 2 separate ways: (1) the partner's (Partner A) report of their own support provision and (2) an average of independent coder's ratings of the partner's (Partner A) support provision. For specific hypotheses see Table 2.

Table 2 Hypotheses

Path	Predictor	Outcome
c	↑ <b>Partner A reports</b> of own support provision	↑ Partner B reports of felt security
	OR	
a	↑ <b>Independent coder reports</b> of partner's support provision	↑ Partner B reports of perceived partner responsiveness
	OR	
b	↑ <b>Partner A reports</b> of own support provision	↑ Partner B reports of felt security
	OR	
	↑ <b>Independent coder reports</b> of partner's support provision	
	↑ Partner B reports of perceived partner responsiveness	

*Note.* Support provision is operationalized in two ways for Study 1b. I separately operationalize support provision via the partner's (Partner A) reports of their support provision after the stressful task and independent coder ratings of the partner's (Partner A) support provision.

## Method

**Participants.** A total of 186 participants (93 couples) returned for their second visit following the initial Study 1a appointment. The demographic information for the full sample is provided above in Study 1a (see Table 1).

**Procedure.** Couple members arrived together to the lab 1 week after their baseline measurements (described in Study 1a). The couple was seated in the same room to determine random assignment of the speech task (speechgiver: 51 females, 42 males) or the puzzle task (caregiver: 43 females, 49 male). Next, the speech task instructions were introduced to the speechgiver while the caregiver was in the room.

The speech task was used to induce stress and provide the caregiver an opportunity to provide social support following the stressor task. This task was adapted from the Trier Social Stress Test (TSST), a well-established method for inducing stress

(Kirschbaum, Pirke,& Hellhammer,1993). The speechgiver was told to imagine that they were applying for a job that they desired. They were told that they would have 5 minutes to introduce themselves and discuss their qualifications for the job. They were also aware that their speech was being videotaped and watched by an experimenter in another room. The speechgiver was also told that their performance would be rated by a group of experts for content, clarity, and personal presentation by comparing their tape to other participants' tapes. The speechgiver also knew that his/her partner was going to watch the speech performance from a couch in the room.

Couple members were separated after receiving the speech instructions. The speechgiver prepared for their speech for 10 minutes. Subsequently, the speechgiver was told to stand in front of a podium and camera that was to record the speech. The experimenter told the speechgiver that he/she was leaving the room and would be watching the speech through a monitor. After 5 minutes, the speech task was complete. The experimenter told the speechgiver to relax on the couch for a few minutes so that the next activity could be prepared. Unbeknownst to the participants, the video camera was still recording for 3 minutes. It was during this time that the amount of support the caregiver provided to the speechgiver was recorded and then coded. Finally, the speechgiver and caregiver were separated to complete questionnaires to assess the key constructs of Figure 1: the caregiver's report of support provision, the speechgiver's report of how responsive the caregiver was, and the speechgiver's report of how secure he/she felt in their relationship.

**Measures -Primary.** All measures were conceptually similar to the measures in Study 1a, but instead focused on current thoughts and feelings rather than global ones.

Emotional support provision by the caregiver was measured in 2 ways. First, caregivers reported how supportively they behaved towards speechgivers using a 7-item scale ( $\alpha = .87$ ) ranging from 1 (strongly disagree) to 7 (strongly agree). These items were created by my mentor's previous lab and have been repeatedly used successfully. They were asked to think about how their behavior before and after the speech and to rate how emotionally supportive they were towards speechgivers. Example items include "let my partner know that I care about him/her," "showed my partner that I understood the way he/she was feeling," and "was comforting and reassuring to my partner." Items were coded such that higher numbers meant more emotional support provision. Second, the post-stressor interaction was coded by three independent raters who were unaware of the study hypotheses. They were asked to rate how much emotional support the caregiver provided towards the speechgiver following the speech task on a 1 (not at all) to 7 (a great deal) scale. An average of the three coders ratings was made, which had high inter-rater reliability ( $\alpha = .90$ ). The full coding manual is in Appendix E.

The perceived partner responsiveness items asked speechgivers to report how much they felt cared for, valued, and understood by the caregiver after the speech task. Participants rated 7 items ( $\alpha = .90$ ) about how the caregiver's behavior made them feel after the stress task, on a scale from 1 (strongly disagree) to 7 (strongly agree). Example items include "let me know he/she cares about me," "showed that he/she understood the way I was feeling," and "was comforting and reassuring." Items were coded such that higher numbers represented more responsiveness.

To measure how secure speechgivers felt in their relationship following the speech task, they rated 2 items ( $\alpha = .85$ ). They were asked to rate how the caregiver's

behavior made them feel after the speech on a 1 (strongly disagree) to 7 (strongly agree) scale. The items were “made me feel calm and secure” and “made me feel valued and accepted.”

**Measures-Covariates.** The same covariates from Study 1a were utilized in these analyses; please reference Study 1a for details. As a brief reminder, the covariates include demographics (age, gender), personal individual differences (anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety), and relationship characteristics (years married, amount of conflict) (Collins et al., 2006; Derrick & Murray, 2007; Feeney & Collins, 2001; Murray et al., 2006b, 1996, 2000, 2001; Reis et al., 2004).

### **Data Analytic Strategy**

**Primary.** These results are unique relative to the others reported in this paper because the role of speechgiver was only assigned to one person per couple. Thus, the outcome variables were specific to 1 person in each couple (the speechgiver). Thus, the data are non-dyadic in the context of these analyses. Therefore, the same conceptual model in Figure 1 was tested, however I used linear regression for this dataset instead of hierarchical linear modeling. Again, I attempted to show covariance between all of the paths in Figure 1 in an attempt to be one step closer towards determining causality (Morling, 2014). Specifically, first I assessed path c by examining the relationship between caregiver support provision and speechgiver felt security. Next, I looked at the association between caregiver support provision and speechgiver perceived partner responsiveness to investigate path a. I then assessed path b by determining the association



between speechgiver perceived partner responsiveness and speechgiver felt security. Finally, I examine path c' by including both support provision and perceived partner responsiveness as predictors of felt security. Due to the data being non-dyadic, I used traditional mediation tests to examine the conceptual model depicted in Figure 1. Accordingly, I used the bootstrapped test of the indirect effect to examine the mediation effect (MacKinnon, Lockwood, & Williams, 2004).

**Ancillary.** Again, I controlled for potential confounds to test whether the effects of interest held. I repeated the tests of paths a, b, c, and c' described above and added in the following covariates: age, gender, anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety, years married, and amount of conflict.

Next, I tested if the effects of interest were moderated by gender, attachment anxiety, or attachment avoidance. The full details of the moderation results are Appendix B.

## **Results -Global Cross-Sectional**

**Primary.** I will first discuss the results concerning the coder ratings of the caregiver's support provision towards the speechgiver. I began by assessing the pathway between the coder ratings of caregiver's emotional support provision and speechgiver's felt security (see Figure 1: path c). I found that this path was insignificant [ $b = -.03$ ,  $t(84) = -.53$ ,  $p = .5994$ ]. According to current standards, a significant c path is not a necessary first requirement of assessing mediation, thus I continued the analysis (MacKinnon, Fairchild, & Fritz, 2007). Next, I looked at the link between the coder rating of caregiver

emotional support provision and how responsive the speechgiver perceived the caregiver to be (see Figure 1: path a). As coders rated the caregiver's support as higher in emotional support, the speechgiver also perceived the caregiver as being more responsive [ $b = .26, t(84) = 3.77, p < .001$ ]. Next, I assessed the relationship between the speechgiver perceived partner responsiveness and speechgiver felt security (see Figure 1: path b). As the speechgiver perceived the caregiver to be more responsive, the speechgiver felt more secure in his/her relationship [ $b = .95, t(83) = 10.46, p < .001$ ]. Finally, I tested the significance of the indirect effect using bootstrapping procedures. Unstandardized indirect effects were computed for each of 1,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The bootstrapped unstandardized indirect effect was .24, and the 95% confidence interval ranged from .1164, .4195. Thus, the indirect effect was statistically significant, suggesting evidence for the full mediation model in Figure 1.

Next, the conceptual model in Figure 1 was tested with the caregiver's report of their own support provision. The first pathway I assessed was linking the caregiver's report of support provision to speechgiver's felt security (see Figure 1: path c). I found that path c (see Figure 1: path c) did not exist [ $b = -.06, t(89) = -.75, p = .4546$ ]. According to current standards, an insignificant c path is not a prohibiting factor of finding mediation (MacKinnon et al., 2007). Although path c was non-significant, both path a and path b were significant, thus I continued my analyses. Specifically, speechgivers whose partners reported providing more support after the speech also perceived their caregiver to be more responsive [ $b = .22, t(89) = 2.34, p < .0214$ ]. Then I assessed the link between speechgiver perceived partner responsiveness and speechgiver

felt security (see Figure 1: path b). I found that as the speechgiver perceived the caregiver to be more responsive (compared with less responsive), directly after the speech, the speechgiver also felt more secure in their relationship [ $b = .94$ ,  $t(88) = 10.89$ ,  $p < .001$ ]. Finally, I tested the significance of the indirect effect using bootstrapping procedures. Unstandardized indirect effects were computed for each of 1,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles. The bootstrapped unstandardized indirect effect was .21, and the 95% confidence interval ranged from -.0079, .5173. Thus, the indirect effect was not statistically significant. These results did not replicate the coder's results above.

**Ancillary.** The above effects held even when accounting for the following covariates: age, gender, anxiety, depressive symptoms, hostility, self-esteem, neuroticism, attachment avoidance, attachment anxiety, years married, and amount of conflict, all  $p$ 's  $< .05$ , except for one. The  $c'$  path for the coder rating analyses stayed non-significant when accounting for the covariates as well [ $b = -.12$ ,  $t(66) = -1.33$ ,  $p = .189$ ]. Only paths  $c$  and  $a$  of the coder rating analyses were moderated by gender. There was no other moderation of gender, attachment anxiety, or attachment avoidance. All details of the moderation results can be found in Appendix B.

### **Study 1 Summary**

Thus far, study 1a has provided evidence that is suggestive in support for the hypothesized mode (see Figure 1). Study 1a is a global cross-sectional analysis of the model proposed in Figure 1. To extend these analyses an in lab manipulation was performed to understand the hypothesized model in an acute emotional support situation. I have found preliminary evidence to support that people are likely using emotional

support provided from their partner as diagnostic evidence to determine how secure they feel in their relationship. This is likely, in part, because people interpret their partner's emotional support as responsive. However, the Study 1b caregiver emotional support provision results did not replicate this. Therefore, I performed additional analyses on other datasets in a different population.

## **Study 2a: Global Cross-Sectional**

### **Overview and Hypotheses**

The goal of Study 2a global cross-sectional secondary analyses were to see if Study 1a results replicated using a sample of dating couples who are primarily students rather than married couples from the community. If so, this would extend the generalizability of the results. The hypotheses were the same as Study 1a. I predicted that individuals (Partner B) whose partners (Partner A) report providing more emotional support will feel more secure in their relationship than individuals whose partners report providing less support. Again this may be, in part, due to how responsive the individual (Partner B) perceives his/her partner's (Partner A) support to be.

### **Method**

**Participants.** Participants consisted of 156 people (N=78 romantic couples) from Santa Barbara, California. Couples were recruited through fliers and newspaper advertisements. Most of the participants were dating exclusively (n=124) and reported an average age of 22.38 years old (SD=4.69). There were 105 participants that identified as white, 4 as African-American, 12 as Latino/a, 17 as Asian, and 18 as other. All couples

were heterosexual, except for 1 gay couple. For additional sample characteristics refer to Table 3.

Table 3 Demographic Information

		<u>Male Partners</u> (n=79)	<u>Female Partners</u> (n=77)	<u>Overall Sample</u> (N=156)
	Age, years	22.87 (4.70)	21.88 (4.66)	22.38 (4.69)
	Years Dating	1.56 (1.76)	1.52 (4.66)	1.51 (.50)
Race	White	52	53	105
	African-American	3	1	4
	Latino/a	7	5	12
	Asian	8	9	17
	Other	9	9	18
Relationship Status	Dating Casually	3	0	3
	Dating Exclusively	62	62	124
	Engaged	2	3	5
	Married	5	4	9
	Other	7	8	15
Living Together?	Yes	32	27	59
	No	47	50	97
Education	Freshman	6	11	17
	Sophomore	13	11	24
	Junior	19	17	36
	Senior	28	27	55
	Grad Student	1	1	2
	Other	1	2	3
	Unknown	11	8	19

*Note.* Age and years married are reported in means and standard deviations in parentheses. All other numbers are raw frequencies of participants that identified as each category.

**Procedure.** The Study 2a procedure was identical to Study 1a. Specifically, participants and their romantic partners independently completed questionnaires at baseline.

At the couple's baseline visit, both participants were given instructions on how to complete a 21-daily diary. Details about this portion of the study are described in Study 2b.

**Measures – Primary.** The same self-report measure was used at baseline from Study 1a to measure how much emotional support an individual (Partner A) provided to their partner (Partner B), at a global level. Participants were asked to rate 6 items ( $\alpha = .83$ ) on how much each statement aligned with the way they usually act when their spouse is upset. These items were rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Example items include “I am very attentive to my spouse’s nonverbal signals for help and support.”, “I’m very good at recognizing my spouse’s needs and feelings.”, and “I sometimes ‘miss’ or ‘missread’ my spouse’s signals for help and understanding.” Items were coded such that higher numbers meant more support provision.

The measure of perceived partner responsiveness used at baseline is conceptually similar to the measure from Study 1a, but with only a representative subset of items (25 items;  $\alpha = .94$ ). This scale has been created by my mentor’s previous lab and has been used successfully in multiple studies. This questionnaire assessed how much the actor felt that their partner cared for, valued, and understood them. Like Study 1a, example items include “When you are feeling down on yourself, to what extent can you rely on support and encouragement from your spouse?”, “I can count on my spouse to comfort me and to help me to feel better.”, “I can count on my spouse when I really need him/her.”, and “My spouse is attentive to my nonverbal signals for help and support”.

The measure of relationship specific felt security used at baseline is conceptually similar to the measure from Study 1a, but with a representative subset of items (9 items;  $\alpha = .90$ ). Responses were made on a scale of 1 (strongly disagree) to 7 (strongly agree). Example items are “My spouse makes me feel truly loved and valued,” “I can trust my spouse completely,” and “I am confident that my spouse will always be committed to our relationship.” This was measured at baseline.

**Measures – Covariates.** Finally, participants completed the following questionnaires at baseline to use as potential covariates: demographics (age, gender), personal individual differences (anxiety 6 items,  $\alpha = .82$ , depressive symptoms 6 items,  $\alpha = .82$ , self-esteem 10 items,  $\alpha = .89$ , attachment avoidance 18 items,  $\alpha = .76$ , attachment anxiety 10 items,  $\alpha = .89$ ), years married, and amount of conflict 4 items,  $\alpha = .85$ ). These measures were identical to those used in Study 1a (see Study 1a measures for full details).

### **Data Analytic Strategy - Global Cross-Sectional**

**Primary.** The .33 intraclass correlation for relationship specific felt security indicated dependency in participants’ responses within couples. Accordingly, the data were analyzed with linear mixed models using a couple specific random intercept. Again, as a step towards establishing covariance, I attempted to find covariance between all the pathways proposed in Figure 1 (Morling, 2014). Accordingly, I separately examine path a, b, and c using the HLM strategy described above. Specifically, first I assessed path c by examining the relationship between support provision and felt security. Next, to investigate path a, I looked at the association between support provision and perceived partner responsiveness. Then path b was assessed by determining the association between

perceived partner responsiveness and felt security. Finally, I included both support provision and perceived partner responsiveness as predictors of felt security to examine path c'. Due to the hierarchical nature of the data, a more complicated approach must be taken to assess the full mediation model proposed in Figure 1. I am currently learning how to utilize an SEM technique to analyze a full APIM model which will be reported on for publication purposes.

**Ancillary.** Again, the same series of ancillary analyses were conducted to test whether the effects of interest held when controlling for potential confounds. Thus, I repeated the tests of paths a, b, c, and c' described above and added in the following covariates: age, gender, anxiety, depressive symptoms, self-esteem, attachment avoidance, attachment anxiety years married, and amount of conflict.

I also tested if the effects of interest (in paths a, b, c, and c') were moderated by gender, attachment anxiety, or attachment avoidance. The full details of these moderation results can be found in Appendix A.

## **Results- Global Cross-Sectional**

**Primary.** These results replicated Study 1a: Global Cross-Sectional. I began by investigating the link between support provision and felt security (see Figure 1: path c). Individuals (Partner B) whose partners (Partner A) reported providing more emotional support, felt more secure in their relationship than individuals whose partners reported providing less support [ $b = .25, t(152.79) = 3.07, p = .003$ ]. Next, I assessed the covariance between support provision (Partner A) and perceived responsiveness (Partner B) (see Figure 1: path a). As partners (Partner A) reported providing more emotional



support, individuals (Partner B) perceived their partner as being more responsive [ $b = .25$ ,  $t(153) = 5.51$ ,  $p < .001$ ]. Then I examined the link between perceived responsiveness (Partner B) and felt security (Partner B) (see Figure 1: path b). People (Partner B) who perceived their partners (Partner A) to be more responsive felt more secure in their relationship than those who perceived their partners to be less responsive [ $b = 1.17$ ,  $t(151.23) = 12.15$ ,  $p < .001$ ]. Finally, the c' path (see Figure 1: path c') became non-significant [ $b = .02$ ,  $t(132.74) = .38$ ,  $p = .704$ ], while accounting for support provision and perceived partner responsiveness.

**Ancillary.** I assessed if the above effects held while accounting for the following covariates age, gender, anxiety, depressive symptoms, self-esteem, attachment avoidance, attachment anxiety years married, and amount of conflict, all  $p$ 's  $< .05$ , with the exception of two. The link between support provision and felt security (see Figure 1: path c) is only marginally significant after accounting for the covariates [ $b = .15$ ,  $t(143.39) = 1.92$ ,  $p = .057$ ]. Path c' stayed non-significant when accounting for covariates [ $b = .03$ ,  $t(133.15) = 0.46$ ,  $p = .457$ ]. Only path a, the effect of support provision on perceived responsiveness, was moderated by attachment anxiety. There was no other moderation by gender, attachment anxiety, or attachment avoidance (details of all moderation results can be found in Appendix A).

## Study 2b: Daily Diary

### Overview and Hypotheses

Thus far, I have investigated the effects of support provision and perceived responsiveness on felt security with cross-sectional measures at a global level and in an

acute social support context within the lab. The goal of Study 2b was to examine the same conceptual model, but in the context of daily reports of interactions. Again, these secondary analyses helped extend the findings into a situation specific context rather than at the global level. Both couple members completed the 21-day diary portion of the study directly after the baseline survey. I predicted that people (Partner B) whose partners (Partner A) provide more emotional support on a daily basis will feel more secure in their relationship than people whose partners provide less support (see Figure 1: path c). This is likely due, in part, to how responsive people (Partner B) perceive their partner's (Partner A) support provision to be. Therefore, I predicted that as partners (Partner A) provide more emotional support, on a daily basis, people (Partner B) will perceive them as being more responsive (see Figure 1: path a). Further, people (Partner B) who perceive their partners (Partner A) to be more responsive on a daily basis would also feel more secure in their relationship daily (see Figure 1: path b).

## **Method**

**Participants.** There were 71 (N= 142 participants, 72 Male) of the original 78 couples from Study 1a that completed the daily diary portion of the study (see Study 2a: Table 3 for full demographic information).

**Procedure.** Couples were instructed to begin the daily diary task the day after their baseline visit (see Study 2a for details). Participants were required to complete a diary packet and then place it in a sealed envelope at the end of the day for 21 days. Couples were told to complete the packet before bed and to not discuss their responses with their romantic partner. After the 21 days were complete, participants returned to the

lab to deliver the booklets and receive compensation. The average amount of completed days was 19 days ( $SD = 2.21$ ), the maximum amount of completed days was 21 days and the least amount of days that someone completed was 6.

**Measures – Primary.** Emotional support provision was measured by a behavioral check list. There were 5 items ( $\alpha = .60$ ) that partners rated the degree to which each of the following events occurred in their relationship that day from 1 (n/a, not at all) to 3 (a lot). Example items are “I listened to my partner’s problems or worries.”, “I expressed my love and affection for my partner.”, and “I comforted and reassured my partner.” All items were coded such that higher numbers reflect more support provision.

Perceived partner responsiveness was measured with a 9-item composite ( $\alpha = .86$ ). Each day, participants indicated how they felt about their partner on a scale from 1, not at all, to 7, extremely. Example items are: I felt... “like my partner was considerate and responsive,” “like my partner was looking out for my well-being,” and “I can count on my partner to be there when I really need him or her.” All items were coded such that higher numbers meant more responsiveness.

The measure of relationship specific felt security was a composite of 5 items ( $\alpha = .90$ ). Participants indicated how they felt about their partner on a scale from 1, not at all, to 7, extremely. Example items are I felt... “secure in my relationship,” “Uncertain about my relationship,” and “insecure about my relationship.” All items were coded such that higher numbers meant that people felt more secure in their relationship.

**Measures – Covariates.** Finally, age, gender, anxiety, depressive symptoms, self-esteem, attachment avoidance, attachment anxiety years married, and amount of daily conflict. All the covariates, except for daily conflict, were measured during Study 2a

baseline (reference Study 2a measures for full details). Daily conflict was measured with 4 items ( $\alpha = .87$ ). Participants were asked to indicate the degree to which each of the following events occurred in their relationship that day on a scale of 1 – N/A not at all to 3 – a lot. The items include “My partner was angry or short-tempered with me,” “My partner and I had an argument or disagreement,” “My partner and I got on each other’s nerves,” “I was angry or short-tempered with my partner.”

### **Data Analytic Strategy**

A different analytic strategy was utilized for this dataset (compared to the previously reported results) because it contains intensive longitudinal data from dyads. These data are conceptually a three-level model (days within persons nested within couples) with distinguishable dyads (male versus female). However, based on published recommendations for distinguishable dyadic data, I used a two-level model to account for dependency in the data (days nested within couples) (Bolger & Laurenceau, 2013; Kenny, Kashy, & Cook, 2006).

The conceptual model in Figure 1 was tested again, except in this dataset everything is discussed at the daily level. Since the dyads are distinguishable by gender, I created indicator variables to include in the models, following published recommendations (Bolger & Laurenceau, 2013). The *female* indicator variable is coded 0 for the male rows of data and 1 for the female rows of data. The *male* indicator variable is coded 0 for the female rows of data and 1 for the male rows of data. Including these indicator variables allows us to look at the male and female effect separately in the same model (Bolger & Laurenceau, 2013). These data are stacked such that each row

represents 1 day and each person has 21 rows, therefore the male and female data are stacked for each variable. In other words, there are NOT separate male and female versions of variables. I included separate male and female random intercepts and also separate male and female slopes for the fixed predictors of interest. Another statement was added to alter the covariances and variances of the residuals, imposing a lag-1 autoregressive(AR1) structure on the residuals as recommended (Kincaid, 2005). This allowed for the residual variances to all be set to 1 and for the residual covariances that are adjacent time points to be highly correlated, but decrease in correlation with increasing distance between time points. Therefore, the residuals for days closer in time were allowed to be more highly correlated than residuals farther apart in time (Kincaid, 2005).

Two types of analyses were conducted (1) between persons and (2) within person (see Appendix D for example syntax). Based on published recommendations, a grand mean centered version of daily support provision ( $M_{\text{grand}} = 2.01$ ) and daily perceived partner responsiveness ( $M_{\text{grand}} = 5.13$ ) were made for the between subject analyses (Bolger & Laurenceau, 2013). This is so that we can compare people who on average across days score higher on a certain predictor to people who on average across days who score lower on a certain predictor. See Table 4 for the full details of which predictors were included in the statistical models.

Table 4 Statistical Model Descriptions – Between Subjects

<b>Path of Analysis</b>	<b>Fixed Predictors in Every Model</b>	<b>Model Specific Fixed Predictors (Grand Mean Centered)</b>
C	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Support Provision Slopes
A	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Support Provision Slopes
B	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Perceived Responsiveness Slopes
C'	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Support Provision Slopes Male and Female Daily Support Provision Slopes

*Note.* This is a summary of the fixed predictors included in the between subjects statistical models.

For the within person models, a within-subject version of daily partner support provision and daily actor perceived responsiveness was made by group mean centering each person around their own mean. Every person's individual average for that specific predictor was included in each model as well to control for how much a person varied from their own levels on a day to day basis (Bolger & Laurenceau, 2013). Again, I separately examined path a, b, and c using the HLM strategy described above (see Figure 1). The same fixed predictors were included in each model, as described above, except daily support provision and daily perceived responsiveness were group mean centered rather than grand mean centered (see Table 5 below for specific model descriptions). This within person comparison allows me to account for the between person effects and

instead focus on how an individual deviates from their own personal average on a daily basis. In other words, I can look at the effect for an individual on a certain predictor comparing days that they are personally higher versus lower on that predictor.

Table 5 Statistical Model Descriptions – Within Subjects

Path of Analysis	Fixed Predictors in Every Model	Model Specific Fixed Predictors
C	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Support Provision Slopes (G) Male and Female Daily Support Provision Slopes (W)
A	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Support Provision Slopes (G) Male and Female Daily Support Provision Slopes (W)
B	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Perceived Responsiveness Slopes (G) Male and Female Daily Perceived Responsiveness Slopes (W)
C'	Male Indicator Variable Female Indicator Variable Male and Female Diary Day slopes	Male and Female Daily Support Provision Slopes (G) Male and Female Daily Support Provision Slopes (G) Male and Female Daily Support Provision Slopes (W) Male and Female Daily Support Provision Slopes (W)

*Note.* This is a summary of the fixed predictors included in the within subjects statistical models. “G” stands for group mean centered, these variables have been centered to make between person versions of these variables. “W” stands for group mean centering around the individual, these variables have been centered around each individual’s own mean to make within person versions of these variables.

**Ancillary.** Finally, I controlled for the following covariates: age, gender, anxiety, depressive symptoms, self-esteem, attachment avoidance, attachment anxiety years

married, and amount of daily conflict in the between subject ancillary analyses. I included age, gender, and amount of daily conflict for the within subject ancillary analyses. I separately examined the a, b, c, and c' paths including the covariates for both between and within comparisons using the methods described above. This was to ensure that the effects of interest still held while controlling for these potential confounds. I also examined if any of the paths were moderated by attachment anxiety or attachment avoidance for the between subject analyses. The full details of the moderation results are in Appendix D.

## **Results – Between Person**

**Primary.** These estimates are looking at how the predictors function on average over the 21-daily diary day period. Specifically, this between persons variability is comparing those who are higher on a certain predictor averaged across days to those who are lower on the same predictor averaged across days. I first examined the link between daily support provision and daily felt security (see Figure 1: path c). On average across days, as individuals (Partner A) reported providing more support, their partner (Partner B) also felt more secure in their relationship (see Table 6, for statistics). Next, I assessed the pathway linking daily support provision and daily perceived responsiveness (see Figure 1: path a). I found that people (Partner B) whose partners (Partner A) were more supportive on average across days, compared with less supportive partners, they (Partner B) also perceived their partner to be more responsive daily (see Table 6, for statistics). Then, I looked at the association between daily perceived responsiveness and daily felt security (see Figure 1: path b). As individuals (Partner B) perceived their partners



(Partner A) to be more responsive, they (Partner B) felt more secure in their relationship, on average across days (see Table 6, for statistics). Finally, I examined the c path while accounting for the other paths (see Figure 1: path c'). The effect for daily support provision on daily felt security was still significant when accounting for the other paths (see Table 6, for statistics). However, the magnitude of the effect became smaller which is suggestive evidence in support of the full conceptual model in Figure 1. All effects were similar for both male and female partners.

Table 6 Fixed effects for between person comparison of the conceptual model in Figure 1.

Outcome (Daily)	Slope (Daily)	Est.	(SE)	df	t	p	CI <sub>95</sub>	
							Lower	Upper
Felt Security (Path c)	Support Provision for <b>males</b>	.71	.10	75.88	7.04	<.001	.51	.91
	Support Provision for <b>females</b>	.64	.11	67.40	6.02	<.001	.43	.85
Perceived Partner Responsiveness (Path a)	Support Provision for <b>males</b>	.40	.06	67.53	6.93	<.001	.27	.50
	Support Provision for <b>females</b>	.42	.06	70.32	7.22	<.001	.30	.54
Felt Security (Path b)	Perceived Partner Responsiveness for <b>males</b>	1.10	.05	54.07	20.45	<.001	.99	1.20
	Perceived Partner Responsiveness for <b>females</b>	1.09	.06	66.31	16.82	<.001	.96	1.22
Felt Security (Path c')	Support Provision for <b>males</b>	.31	.05	2208.26	6.08	<.001	.22	.42
	Support Provision for <b>females</b>	.24	.05	3457.49	4.50	<.001	.13	.34

**Ancillary.** Finally, to assess if the effects of interest held, I included the covariates age, gender, anxiety, depressive symptoms, self-esteem, attachment avoidance, attachment anxiety years married, and amount of daily conflict. All of the above effects held even after accounting for all of the covariates, all  $p$ 's < .05. Only path c was

moderated by attachment anxiety and avoidance. There was no other moderation of attachment anxiety or attachment avoidance, all moderation results can be found in Appendix D.

## **Results – Within Person**

**Primary.** Again, these estimates are looking at how the predictors function daily over the 21-day diary period. Specifically, this within-person comparison is looking at how much each individual's days deviate from their own daily average on a particular predictor. First, I assessed the association between daily support provision and daily felt security (see Figure 1: path c). On days that a partner (Partner A) reported providing more support than their own average, the individual (Partner B) felt more secure in the relationship compared to days that their partner (Partner A) reported providing less support (see Table 7 for statistics). Next, I examined the link between daily support provision and daily perceived responsiveness (see Figure 1: path a). On days that partners (Partner A) reported providing more support than their own average, the other person (Partner B) perceived them as being more responsive compared to days that partners (Partner A) reported providing less support (see Table 7 for statistics). Then, I investigated the pathway between daily perceived responsiveness and daily felt security (see Figure 1: path b). On days that individuals (Partner B) perceived their partners (Partner A) to be more responsive than usual, they (Partner B) felt more secure in their relationship (see Table 7 for statistics). Finally, I investigated the c' path, which remained significant when accounting for daily support provision and daily perceived

responsiveness predicting daily felt security. However, the magnitude of the effect became smaller which is suggestive evidence in support of the full conceptual model in

Figure 1. All effects are similar for both male and female partners.

Table 7 Fixed effects for within person comparison of the conceptual model in Figure 1.

Outcome (Daily)	Slope (Daily)	Est.	(SE)	df	t	p	CI <sub>95</sub>	
							Lower	Upper
Felt Security (Path c)	Support Provision for <b>males</b>	.66	.10	76.27	6.45	<.001	.46	.87
	Support Provision for <b>females</b>	.63	.11	67.63	5.87	<.001	.42	.85
Perceived Partner Responsive ness (Path a)	Support Provision for <b>males</b>	.36	.06	66.91	6.24	<.001	.24	.48
	Support Provision for <b>females</b>	.41	.06	69.20	6.77	<.001	.29	.53
Felt Security (Path b)	Perceived Partner Responsiveness for <b>males</b>	1.0 6	.05	58.10	19.84	<.001	.96	1.17
	Perceived Partner Responsiveness for <b>females</b>	1.0 7	.06	66.04	16.54	<.001	.94	1.20
Felt Security (Path c')	Support Provision for <b>males</b>	.29	.05	2271.0 1	5.39	<.001	.19	.40
	Support Provision for <b>females</b>	.25	.05	2453.5 4	4.70	<.001	.15	.36

**Ancillary.** Finally, to account for personal characteristics, I included the covariates age, years married, and amount of daily conflict. All the above effects held even after accounting for all of the covariates, all  $p$ 's  $< .05$ .

## DISCUSSION

As a whole, these results seem to suggest that at a global level people whose partners provide more emotional support, compared to partners that provide less support, also feel more secure in their relationships. These results are also preliminary evidence that this effect is, in part, due to how responsive a person perceives their partner's emotional support to be. In other words, people whose partners report providing more support also perceive their partner as being more responsive. Further, when people perceive their partner as being more responsive, they also feel more secure in their relationship. I was conscious of the fact that this global effect could be due to a general positive view of the relationship overall. In other words, it is possible that viewing your relationship in a positive light may lead to general positive evaluations of your partner (high perception of responsiveness, high sense of security). To combat this issue, I performed a confirmatory factor analysis on these data and found that felt security and perceived partner responsiveness are two distinct constructs at the global level. Thus, participants were not just reporting on their overall positive view of their relationships.

To combat this issue even further, I assessed my hypotheses in 2 independent situation specific scenarios, a lab manipulation (Study 1b) and a 21-day diary study (Study 2b). For the lab manipulation, one couple member (Partner B) was assigned to a stressor task and their partner (Partner A) was given an opportunity to provide emotional support. Emotional support provision was reported in 2 ways, the participant (Partner A)

self-reported the amount of emotional support he/she provided, but 3 independent coders also assessed how much emotional support was provided. I found similar results, as described above, in support of my hypotheses (see Figure 1) for the coder evaluation. However, I did not replicate the results using the partner's self-reports of how much emotional support that he/she provided their spouse after the stressful task. It could be that the coders took a more objective view of the situation, whereas the partner may have not realized that he/she was actually providing support to their spouse. Thus, they could have under-reported the amount of emotional support they provided for his/her spouse. It could also be possible that the analyses are under-powered because they are secondary analyses. Thus, the correct power was not accounted for when the study was created.

In the 21-day diary study, participants were asked to report how much emotional support they provided to their spouse each day, how responsive their spouse was towards them each day, and how secure they felt in their relationship each day. Again, I found similar results as the other studies described. Study 2b showed more evidence in support of the conceptual model in Figure 1, but rather in a 21-daily diary method. In other words, people (Partner B) felt more loved and cared for when their partner (Partner A) provided more support compared with days that they provided less support. The results suggest again that this is probably, in part, due to how responsive the person (Partner B) perceives the partner's (Partner A) support to be. Those (Partner B) that received more support on a daily basis perceived their partner (Partner A) to be more responsive, and also felt more secure in their relationship as well. Studies 1b and 2b showed evidence in support of Figure 1 in situation specific instances of emotional support instead of just at the global level.

These results are important for several reasons. First, this is the first empirical evidence of the link between support provision and felt security through perceived responsiveness. These secondary analyses suggest that people do use support from their partner as diagnostic evidence to determine how secure they feel in their relationship. Further, not only is the partner's (Partner A) support important, but the other partner (Partner B) needs to recognize the support as responsive. Interpreting the support as responsive helps the individual (Partner B) feel loved, validate, or understood by the partner (Partner A). This shows that a person's perceptions of the relationship are founded in real relationship dynamics. Knowing that responsive support provision is a diagnostic tool that people use to understand their relationships could be important when aiding people in building or repairing their existing relationships. Prior theories have determined many relationship processes that are utilized to understand relationship perceptions (Collins et al., 2006; Derrick & Murray, 2007; Holmes & Rempel, 1989; Tooby & Cosmides, 1996), but the current set of studies represents the first empirical support for the connection between support provision and relationship specific felt security through perceived partner responsiveness.

### Limitations and Direction for Future Research

A main limitation of the current research is that the formal test of mediation was only run for Study 1b analyses. I could formally test the conceptual model in Figure 1 with this dataset because only one partner was assigned to the role of speechgiver or caregiver, making this data specifically non-dyadic. Due to the hierarchal nature of the other data, I need to utilize an SEM technique to formally test the mediation model



proposed in Figure 1. I am currently learning this technique and will report on these results for publication.

Further, I did not directly manipulate support provision. Future research could manipulate the levels of support provided by each spouse and see how this affects the perceptions of responsiveness in turn affecting felt security. Having this manipulation would establish causality, whereas right now we can only talk about the correlational associations between each construct. Realistically, the perceptions of responsiveness probably cyclically affects the type of support that the partner provides. However, experimentally manipulating support provision would aid in a more in depth understanding of the process.

Future research could look at how the different combinations of types of diagnostic criteria are used by couples and which are most important for developing a sense of felt security instead of examining them separately. It could be that one type of diagnostic criteria is utilized more often than others. This would be pertinent information for relationship researchers and counselors so that they could understand which relationship dynamic would be most beneficial to focus on. This likely varies from couple to couple, but there may be a few diagnostic criteria that are utilized most often by those in exceptional relationships.

Further, the connection between commitment and relationship felt security has yet to be understood. Commitment is derived from dependency and is a subjective state made up of the goal of persevering through the relationship, feeling attached to the partner, and cognitively viewing the relationship as long-term (Agnew, Van Lange, Rusbult, & Langston, 1998). Whereas relationship specific felt security is a meta-

perspective of what the partner thinks of a person and how confident the person can be in those feelings. It may be possible that you can be committed to a partner but not feel secure in the relationship, or vice versa. Felt security could also lead to commitment. Future research is required to answer these questions and significantly bolster our understanding of long lasting connections.

### Conclusion

Overall, this empirical evidence for support of our conceptual model in Figure 1 is a good foundation from which more research within the dynamics of close relationships can be expanded upon. These current studies have established the covariance between emotional support provision, perceived responsiveness, and relationship specific felt security. Building upon this research will expand understanding of relationship research.

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## Appendix A

### GLOBAL CROSSECTIONAL RESULTS

#### Study 1a Moderation Results

**Results.** None of the results in Study 1a were moderated by gender, attachment anxiety, or attachment avoidance (see Table 8 for full statistics).

Table 8 Study 1a

Moderation by	Path	F	<i>df</i>	<i>p</i>
Gender	c	.27	(1, 149.28)	.603
Attachment Anxiety	c	.43	(1, 160.33)	.513
Attachment Avoidance	c	.06	(1, 152.96)	.802
Gender	a	.22	(1, 166.32)	.224
Attachment Anxiety	a	3.67	(1, 176.21)	.057
Attachment Avoidance	a	.00	(1, 170.78)	.965
Gender	b	.60	(1, 148.79)	.441
Attachment Anxiety	b	.00	(1, 191.93)	.997
Attachment Avoidance	b	.60	(1, 192.93)	.439
Gender	c'	.33	(1, 175.75)	.567
Attachment Anxiety	c'	1.76	(1, 185.57)	.186
Attachment Avoidance	c'	1.61	(1, 182.84)	.207

### Study 2a Moderation Results

None of the results were moderated by gender, attachment anxiety, or attachment avoidance, except path a was moderated by attachment anxiety (see Table 9 for full statistics). For those who are low in attachment anxiety, as their partners provide more support, they also perceive them as being more responsive [ $b = .62$ ,  $t(151) = 4.89$ ,  $p < .001$ ]. For those who are high in attachment anxiety, they also perceive their partners as more responsive when they provide more support [ $b = .91$ ,  $t(151) = 4.238$ ,  $p < .001$ ].

Table 9 Study 2a

Moderation by	Path	F	<i>df</i>	<i>p</i>
Gender	c	2.30	(1, 127.87)	.132
Attachment Anxiety	c	1.96	(1, 147.28)	.164
Attachment Avoidance	c	.058	(1, 134.51)	.810
Gender	a	.01	(1, 151)	.926
Attachment Anxiety	a	9.96	(1, 151)	.002
Attachment Avoidance	a	.22	(1, 151)	.640
Gender	b	.01	(1, 112.97)	.912
Attachment Anxiety	b	.47	(1, 134.42)	.496
Attachment Avoidance	b	.07	(1, 135.02)	.792
Gender	c'	2.72	(1, 115.42)	.102
Attachment Anxiety	c'	.43	(1, 135.71)	.515
Attachment Avoidance	c'	.16	(1, 122.97)	.689

## Appendix B

### LAB MANIPULATION

#### Study 1b Coder Ratings

**Results.** The following results for Study 1b are with support provision operationalized as the coder's ratings of the caregiver's support provision. None of the results for these models were moderated by gender, attachment anxiety, or attachment avoidance (see table 10 for statistics).

Table 10 Study 1b: coder

Moderation by	Path	F	<i>df</i>	<i>p</i>
Gender	c	1.04	(1, 82)	.311
Attachment Anxiety	c	.04	(1, 82)	.842
Attachment Avoidance	c	.27	(1, 82)	.606
Gender	a	3.29	(1, 82)	.073
Attachment Anxiety	a	.97	(1, 82)	.327
Attachment Avoidance	a	.68	(1, 82)	.412
Gender	b	.26	(1, 82)	.613
Attachment Anxiety	b	1.20	(1, 82)	.277
Attachment Avoidance	b	1.78	(1, 82)	.186
Gender	c'	.23	(1, 81)	.631
Attachment Anxiety	c'	1.68	(1, 81)	.198
Attachment Avoidance	c'	.02	(1, 81)	.883

### Study 1b: Caregiver Ratings

**Results.** Next, I am showing the results for Study 1b for the models that have support provision operationalized as the caregiver's ratings of their own support provision after the speech. None of the results for these models were moderated by gender, attachment anxiety, or attachment avoidance (see Table 11 for statistics).

Table 11 Study 1b: caregiver

Moderation by	Path	F	<i>df</i>	<i>p</i>
Gender	c	3.83	(1, 87)	.053
Attachment Anxiety	c	.04	(1, 87)	.836
Attachment Avoidance	c	1.90	(1, 87)	.172
Gender	a	2.25	(1, 87)	.137
Attachment Anxiety	a	.01	(1, 87)	.918
Attachment Avoidance	a	1.70	(1, 87)	.965
Gender	b	.26	(1, 88)	.613
Attachment Anxiety	b	1.20	(1, 88)	.277
Attachment Avoidance	b	1.78	(1, 88)	.186
Gender	c'	1.53	(1, 86)	.220
Attachment Anxiety	c'	.04	(1, 86)	.847
Attachment Avoidance	c'	.34	(1, 86)	.560

## Appendix C

### DAILY DIARY

#### Study2b Moderation Results

**Results.** For Study 2b, none of the results were moderated by attachment anxiety or attachment avoidance (See table 12 for full statistics).

Table 12 Study 2b Between Person Male

Moderation by	Path	F	<i>df</i>	<i>p</i>
Attachment Anxiety	c	.10	(1, 75.58)	.759
Attachment Avoidance	c	.31	(1, 68.21)	.580
Attachment Anxiety	a	2.50	(1, 66.29)	.118
Attachment Avoidance	a	1.90	(1, 56.27)	.173
Attachment Anxiety	b	.10	(1, 55.14)	.322
Attachment Avoidance	b	.11	(1, 48.96)	.743
Attachment Anxiety	c'	.22	(1, 1575.48)	.643
Attachment Avoidance	c'	.04	(1, 1615.43)	.846
Study 2b Between Person Female				
Moderation by	Path	F	<i>df</i>	<i>p</i>
Attachment Anxiety	c	2.14	(1, 65.46)	.149
Attachment Avoidance	c	.05	(1, 73.48)	.816
Attachment Anxiety	a	.59	(1, 66.46)	.445
Attachment Avoidance	a	.04	(1, 75.55)	.847
Attachment Anxiety	b	3.08	(1, 60.74)	.084
Attachment Avoidance	b	5.31	(1, 79.68)	.607
Attachment Anxiety	c'	2.78	(1, 2388.87)	.096
Attachment Avoidance	c'	.75	(1, 2338.30)	.388

## Appendix D

### SAMPLE SYNTAX

#### Study 2B: Between People SPSS Sample Syntax

##### Path C

```
MIXED
    DFeltSec WITH MALE FEMALE diary PartnerPPRC
    /FIXED = MALE FEMALE MALE*diary MALE*PartnerPPRC
        FEMALE*diary FEMALE*PartnerPPRC | NOINT SSTYPE(3)
    /METHOD=REML
    /PRINT=G SOLUTION TESTCOV
    /RANDOM= MALE FEMALE MALE*PartnerPPRC
FEMALE*PartnerPPRC | SUBJECT(couple) COVTYPE(UN)
    /REPEATED=subject | SUBJECT(couple*diary) COVTYPE(ar1).
```

##### Path C – Moderation of Attachment Anxiety

```
MIXED
    DailyFeltSecurity WITH MALE FEMALE diaryday PartnerSupportC
AttachmentAnxiety
    /FIXED = MALE FEMALE MALE*diaryday MALE*AttachmentAnxiety MALE*
PartnerSupportC *AttachmentAnxiety
        FEMALE*diaryday FEMALE* AttachmentAnxiety FEMALE*
PartnerSupportC *AttachmentAnxiety | NOINT
        SSTYPE(3)
    /METHOD=REML
    /PRINT=G SOLUTION TESTCOV
    /RANDOM= MALE FEMALE MALE* PartnerSupportC FEMALE* PartnerSupportC
| SUBJECT(couple) COVTYPE(UN)
    /REPEATED=subject | SUBJECT(couple*diary) COVTYPE(ar1).
```

### **Path C – Moderation of Attachment Avoidance**

MIXED

```
DailyFeltSecurity WITH MALE FEMALE diaryday PartnerSupportC
AttachmentAvoidance
/FIXED = MALE FEMALE MALE*diaryday MALE*AttachmentAvoidance MALE*
PartnerSupportC *AttachmentAvoidance
      FEMALE*diaryday FEMALE* AttachmentAvoidance FEMALE*
PartnerSupportC *AttachmentAvoidance | NOINT
      SSTYPE(3)
/METHOD=REML
/PRINT=G SOLUTION TESTCOV
/RANDOM= MALE FEMALE MALE* PartnerSupportC FEMALE* PartnerSupportC
| SUBJECT(couple) COVTYPE(UN)
/REPEATED=subject | SUBJECT(couple*diary) COVTYPE(ar1).
```

### **Study 2B: Within People SPSS Sample Syntax**

#### **Path C**

MIXED

```
DFeltSec WITH MALE FEMALE diary PartnerPPRw PartnerPPRCb2
/FIXED = MALE FEMALE MALE*diary MALE*PartnerPPRw
MALE*PartnerPPRCb2 FEMALE*diary
      FEMALE*PartnerPPRw FEMALE*PartnerPPRCb2 | NOINT
SSTYPE(3)
/METHOD=REML
/PRINT=G SOLUTION TESTCOV
/RANDOM= MALE FEMALE MALE*PartnerPPRw FEMALE*PartnerPPRw |
SUBJECT(couple) COVTYPE(UN)
/REPEATED=subject | SUBJECT(couple*diary) COVTYPE(ar1).
```

### **Path C – Moderation of Attachment Anxiety**

MIXED

```
DailyFeltSecurity WITH MALE FEMALE diaryday PartnerSupportW
PartnerSupportB AttachmentAnxiety
/FIXED = MALE FEMALE MALE*diaryday MALE*PartnerSupportW
MALE*PartnerSupportB MALE*AttachmentAnxiety
      MALE* PartnerSupportW *AttachmentAnxiety
      FEMALE*diaryday FEMALE*PartnerSupportW
FEMALE*PartnerSupportB FEMALE*AttachmentAnxiety
      FEMALE* PartnerSupportW *AttachmentAnxiety | NOINT SSTYPE(3)
/METHOD=REML
```



```

/PRINT=G SOLUTION TESTCOV
/RANDOM= MALE FEMALE MALE* PartnerSupportW FEMALE*
PartnerSupportW | SUBJECT(couple) COVTYPE(UN)
/REPEATED=subject | SUBJECT(couple*diary) COVTYPE(ar1).

```

### **Path C – Moderation of Attachment Avoidance**

MIXED

```

DailyFeltSecurity WITH MALE FEMALE diaryday PartnerSupportW
PartnerSupportB AttachmentAvoidance
/FIXED = MALE FEMALE MALE*diaryday MALE*PartnerSupportW
MALE*PartnerSupportB MALE*AttachmentAvoidance
MALE* PartnerSupportW *AttachmentAvoidance
FEMALE*diaryday FEMALE*PartnerSupportW
FEMALE*PartnerSupportB FEMALE*AttachmentAvoidance
FEMALE* PartnerSupportW *AttachmentAvoidance | NOINT
SSTYPE(3)
/METHOD=REML
/PRINT=G SOLUTION TESTCOV
/RANDOM= MALE FEMALE MALE* PartnerSupportW FEMALE*
PartnerSupportW | SUBJECT(couple) COVTYPE(UN)
/REPEATED=subject | SUBJECT(couple*diary) COVTYPE(ar1).

```

## Appendix E

### FULL CODING MANUAL FOR STUDY 1B

1. Before beginning each coding session, read over the coding scheme for the interaction.
2. When there are multiple coders in the room, do not talk to each other or look at each other's codes.

#### Emotional Support:

The caregiver conveys *verbal* or *physical* reassurance, affection, compassion and understating to the partner. The caregiver is sympathetic, nurturing, and attentive to the needs of the support-seeker. This includes providing positive feedback about the speech either verbally ("You did a great job." "A+!") or nonverbally (clapping, showing thumbs up), listening attentively, expressing understanding and empathy ("That must have been hard... I could have never put a speech together in 5 minutes"), encouraging disclosures of feelings ("are you doing okay?"), providing reassurance that the speech was okay ("don't worry, your speech may have been short but it was very clear," "Don't worry, you didn't look nervous at all"), attempting to lift the partner's mood through the use of positive/friendly humor, reframing the situation for the partner in an effort to make it less threatening ("don't worry, that was only for an experiment"), physical affection (supportive touching, giving a hug), and conveying attachment to the partner (saying "I love you", or giving a wink, or a smile.).

Rate the amount of emotional support on the following scale:

1	2	3	4	5	6	7
Not at all						A great deal

## **Appendix F**

### **FACTOR ANALYSES**

First, to determine if felt security was distinguishable by gender, I separated the items for felt security by gender. The data are in a wide format to account for the dependency of couple members. To understand if felt security was distinguishable by gender, I compared a model with constrained paths (see Figure 2) to a model with unconstrained paths (see Figure 3). Comparing the fit of these two models allows me to examine if gender should be separated by constraining the factor loadings to be the same or not. I only included examples of the path models for the felt security analyses of Study 1a. I followed the same technique for perceived partner responsiveness and I replicated the findings in Study 1a with Study 2a, thus the information can be extrapolated from this example. However, all of the results are shown. All of the results indicate that male and female are not different from each other in Study 1a or 2b for felt security or perceived partner responsiveness, see tables 13, 14, 15, and 16 for specific statistics. The chi-square listed for each model is the chi-square test from the AMOS output that tested that particular model against the saturated model. The AMOS output does not provide loglikelihoods, thus I compared the models by using the chi-square difference test.

Figure 2 Study 1a Felt Security Confirmatory Factor Analysis Constrained Paths

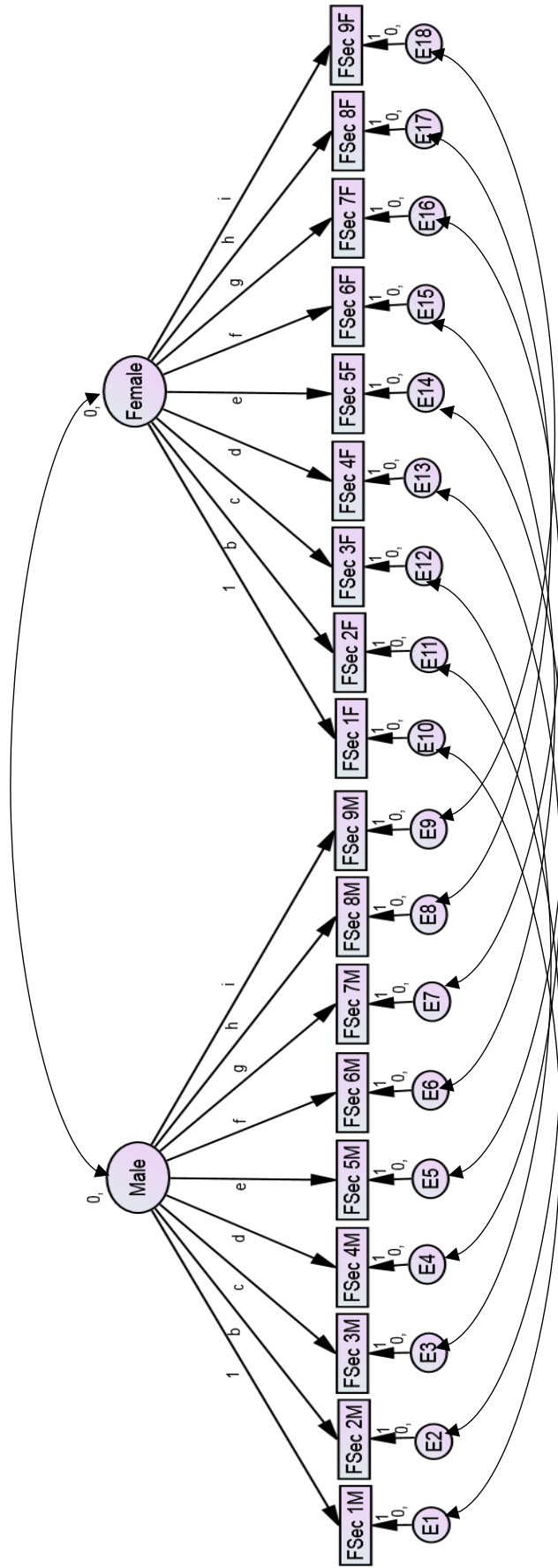


Figure 3 Study 1a Felt Security Confirmatory Factor Analysis Unconstrained Paths

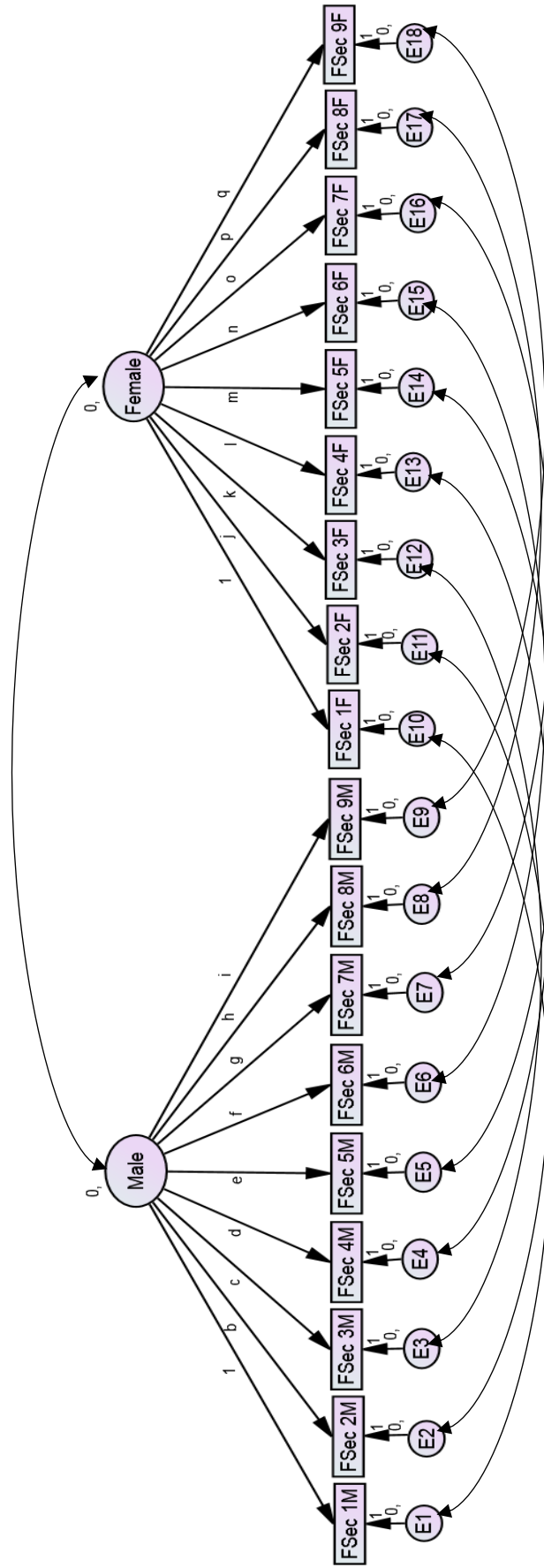


Table 13 Study 1a: Felt Security Gender Distinguish Results

Model	$\chi^2$	<i>df</i>	<i>p</i>
Constrained (Figure 1)	530.081	250	
Unconstrained (Figure 2)	512.572	239	
Comparison ( $\Delta\chi^2$ )	17.509	11	.0937

Table 14 Study 1a: Perceived Partner Responsiveness Gender Distinguish Results

Model	$\chi^2$	<i>df</i>	<i>p</i>
Constrained	39.911	33	
Unconstrained	38.041	29	
Comparison ( $\Delta\chi^2$ )	1.87	4	.7597

Table 15 Study 2a: Felt Security Gender Distinguish Results

Model	$\chi^2$	<i>df</i>	<i>p</i>
Constrained	269.693	133	
Unconstrained	260.445	125	
Comparison ( $\Delta\chi^2$ )	9.248	8	.3218

Table 16 Study 2a: Perceived Partner Responsiveness Gender Distinguish Results

Model	$\chi^2$	<i>df</i>	<i>p</i>
Constrained	8.087	7	
Unconstrained	6.691	5	
Comparison ( $\Delta\chi^2$ )	2.116	2	.3471

Next, I wanted to determine if perceived partner responsiveness and felt security were separable at the global level. To determine this, I compared a model that perceived partner responsiveness and felt security were two separate factors (see Figure 4) to a model that felt security and perceived partner responsiveness were in one factor together (see Figure 5). Again, I am showing 2 examples of these male models from Study 1a, and the figures for female and Study 2a can be extrapolated from these examples. The results were consistent across studies 1a and 2a for male and female. The models (Figure 4 and 5) are statistically different from each other. Therefore, I retained the 2 factor model because the difference between that model and the saturated model is smaller than the 1 factor model. This means that the data supports felt security and perceived partner responsiveness being 2 separate factors, see tables 17, 18, 19, and 20 for specific statistics.

Figure 4 Study 1a Male Two Factor Model

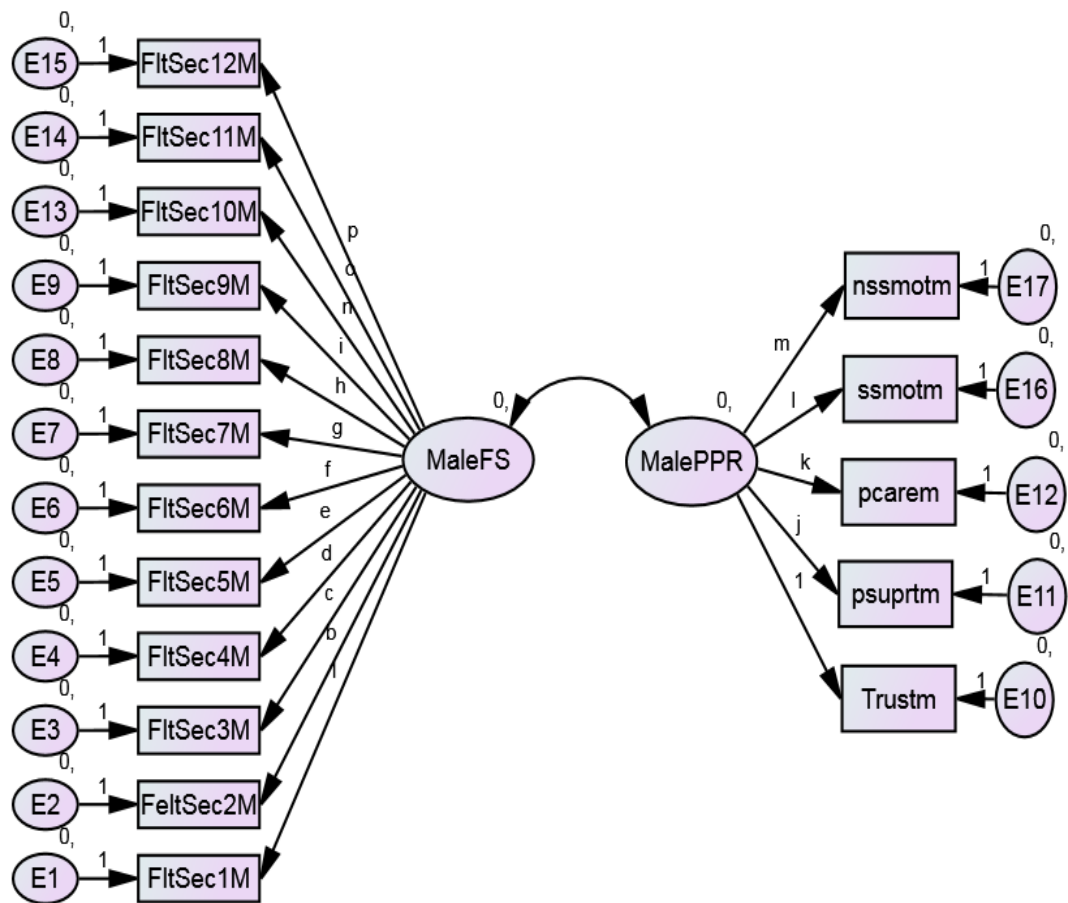




Figure 5 Study 1a Male One Factor Model

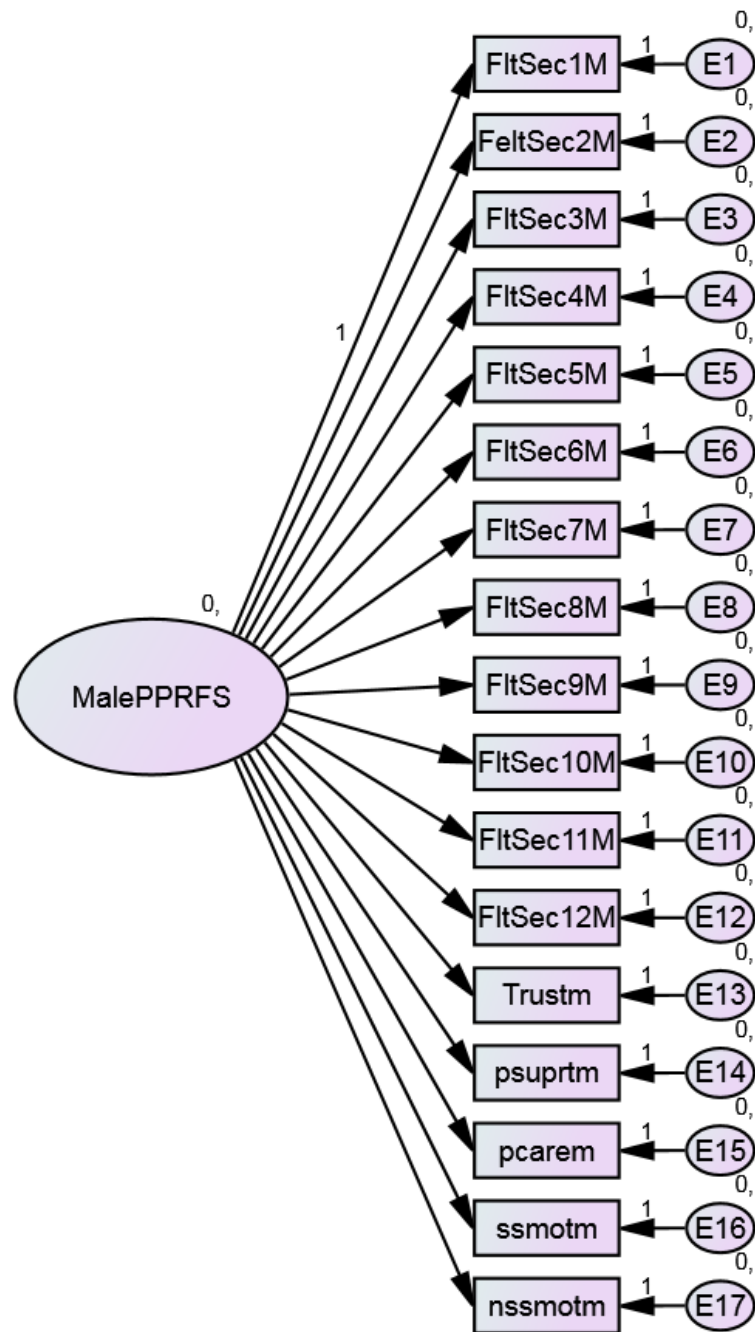


Table 17 Study 1a: Male

Model	$\chi^2$	<i>df</i>	<i>p</i>
2 Factor Model (Figure 3)	286.623	118	
1 Factor Model (Figure 4)	301.809	119	
Comparison ( $\Delta\chi^2$ )	15.186	1	<.001

Table 18 Study 1a: Female

Model	$\chi^2$	<i>df</i>	<i>p</i>
2 Factor Model (Figure 3)	349.667	118	
1 Factor Model (Figure 4)	423.043	119	
Comparison ( $\Delta\chi^2$ )	73.376	1	<.001

Table 19 Study 2a: Male

Model	$\chi^2$	<i>df</i>	<i>p</i>
2 Factor Model (Figure 3)	96.369	53	
1 Factor Model (Figure 4)	107.523	54	
Comparison ( $\Delta\chi^2$ )	11.154	1	<.001

Table 20 Study 2a: Female

Model	$\chi^2$	<i>df</i>	<i>p</i>
2 Factor Model (Figure 3)	185.855	53	
1 Factor Model (Figure 4)	224.450	54	
Comparison ( $\Delta\chi^2$ )	38.595	1	<.001