

RELATIONSHIP-BASED ANXIETY:
USING A COGNITIVE-BEHAVIORAL PERSPECTIVE TO DEVELOP AND
EVALUATE A COUPLES' INTERVENTION

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ABSTRACT

CHRISTINE PAPROCKI: Relationship-Based Anxiety: Using a Cognitive-behavioral Perspective to Develop and Evaluate a Couples' Intervention
(Under the direction of Don Baucom)

Whereas romantic relationships are commonly a source of pleasure and comfort, for some individuals they can be a source of persistent anxiety. The aim of the present investigations was to explore the construct of relationship-based anxiety using a cognitive-behavioral framework. Common behavioral patterns and cognitive tendencies seen among individuals with relationship-based anxiety were examined, including excessive reassurance-seeking, self-silencing, partner accommodation, and intolerance of uncertainty. These patterns of behaving and thinking were considered within a dyadic context, as partners' behaviors influence and are influenced by the actions of individuals with relationship-based anxiety. This investigation involved two studies—in the first, relationship-based anxiety and its behavioral correlates were assessed in a sample of 97 couples using online surveys. In the second study, 21 couples from the UNC campus community participated in a brief, couple-based feedback intervention for relationship-based anxiety. This intervention was found to significantly decrease levels of reassurance-seeking and self-silencing among individuals with relationship anxiety, and to significantly decrease levels of maladaptive accommodation behaviors in their partners.

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CHAPTER 1: BACKGROUND

Introduction

For many individuals, relationships with romantic partners are a source of comfort during times of stress. For couples who communicate effectively, a partner can serve as a primary supporter and closest ally. However, for some individuals, relationship-based anxiety compromises this sense of closeness and security. Relationship-based anxiety is a broad term encompassing a wide range of behaviors and thought processes, but we will define it as a pervasive and enduring fear that the relationship with a partner is in danger of ending despite little evidence for this possibility, or that the partner is losing interest in the relationship, again, despite little evidence for this possibility.

When discussing relationship-based anxiety, the theoretical framework that might come to mind most readily is attachment theory. Within this framework, originally formulated by Bowlby in the late 1950s, early childhood experiences with parental responsiveness and separations plays a formative role in how individuals interact with close others in their lives, throughout their lives (Bowlby, 1977). Attachment theory has generated a large and growing body of research. Much of this research has demonstrated that those with *insecure attachments*—i.e., those with early difficulty with the child-caregiver relationship who show several distinct patterns of maladaptive relationship behaviors—have trouble with their *adult* romantic relationships as well. For example, individuals with insecure attachment styles have higher rates of relationship dissolution (Simpson, 1990) and relationship distress (Meyers & Landsberger, 2002). More specifically, research has demonstrated that partners of

individuals who exhibit *anxious* insecure attachment and fears of abandonment are more likely to report relationship distress (Collins & Read, 1990). Furthermore, those with attachment insecurity are more likely to experience individual psychopathology, with rates of all psychiatric diagnoses other than schizophrenia positively associated with insecure attachment in a nationally representative sample (Mickelson, Kessler, & Shaver, 1997).

While attachment theory has been highly generative and has helped to inform and shape the field of relationships research, the current investigation will explore relationship-based anxiety from a different framework. Attachment theory primarily takes an etiological approach, but here we will not be focusing on questions of origins of relationship-based anxiety; rather, we examine commonly recurring behaviors and thought processes in adults with relationship-based anxiety that likely help to maintain the anxiety and, in some cases, contribute towards making it worse. First, the types of behaviors these individuals engage in are examined. Often these behaviors are enacted with the goal of reducing relationship-based anxiety in the short-term, but many of these actions (e.g., excessive reassurance-seeking) ultimately prove to be self-defeating. Next, common thought processes and biases seen in relationship-based anxiety are explored. We then describe how these patterns impact a relationship and take a closer look at these processes from the perspective of *partners* of individuals with relationship-based anxiety. Finally, we introduce the details of the proposed investigation, which further explores behavioral correlates of relationship-based anxiety and will also evaluate a brief couple-based intervention which specifically targets the communication difficulties that often arise for couples in which one partner experiences relationship-based anxiety.

Intrapersonal Processes Associated with Relationship-Based Anxiety

When individuals feel anxious, regardless of what it is they are feeling anxious about, they are likely to engage in behaviors aimed at reducing their anxiety. In many instances, this will involve a heightened state of vigilance and checking with other people to ensure safety when one feels threatened. In the case of relationship-based anxiety, unfortunately the person who is most often available to “check in” with is also the person whom the anxiety is directed towards—the relationship partner. Therefore, this behavioral pattern of excessive reassurance-seeking regarding the relationship (e.g., “Do you still love me?”, “Are you mad at me right now?”) deserves careful exploration within this context. Another broad pattern that occurs in anxiety is avoidance. People attempt to avoid what makes them anxious, which can reduce their anxiety in the short-term, but creates problems for them in the long-term as they avoid situations that they need to face. With relationship-based anxiety, what tends to be avoided is any potential “rocking the boat” in the relationship, which can mean avoiding discussion of relationship concerns, bringing up opinions that might be counter to those of one’s partner, and generally only behaving in ways that one surmises would be pleasing to one’s partner. In this paper, we categorize this class of behaviors as “self-silencing” (Jack, 1991). In considering excessive reassurance-seeking and self-silencing, one might initially think these two groups of behaviors are incompatible with one another, as one involves repeatedly questioning one’s partner to reduce anxiety, and the other involves keeping quiet about concerns in an attempt to please one’s partner. However, we will discuss how these behaviors can serve to play off and reinforce one another in a sequential manner.

Before discussing excessive reassurance-seeking and self-silencing in turn below, we briefly provide a relevant framework for discussing these types of behaviors. These patterns

of interaction can be thought of as *self-defeating* behaviors, because, as we will see in the following review, while these behaviors might be a helpful strategy to reduce anxiety short-term, in the long-term they ultimately contribute to relationship distress, instability, and dissolution, the very outcomes individuals with relationship-based anxiety are attempting to avoid. In an article reviewing self-defeating behaviors, Baumeister and Scher (1988) describe three categories: (a) primary self-destruction, in which people foresee and desire to harm themselves; (b) tradeoffs, in which people foresee harm but do not desire it; and (c) counterproductive strategies, in which people neither foresee nor desire the harm that results from their behavior. In the current paper, we will be primarily focusing on the latter two categories of self-defeating behavior—often, when people engage in excessive reassurance-seeking or self-silencing, they realize that these behaviors create problems in their relationships, but they find themselves unable to prevent themselves from engaging in the behaviors due to a perceived lack of alternative options to reduce their anxiety. However, at other points people might not even be aware of the destructive nature of these actions and are surprised when interpersonal difficulties result. Throughout our discussion below, we will refer back to this framework to explain further why people might engage in these actions despite associations with negative outcomes.

Within the context of relationship-based anxiety, excessive reassurance-seeking involves repeated questioning of the romantic partner regarding the status of their relationship and the partner's regard for the reassurance-seeker. This reassurance-seeking can take the form of direct questioning (e.g., "Do you still care about me?", "Are you upset with me?") or can be more indirect in nature (e.g., carefully monitoring one's partner's moods and body language for assurance that they are engaged in the relationship). The more general

phenomenon of reassurance-seeking beyond the context of relationship-based anxiety is seen in an array of psychological disorders and is probably most prominently observed and studied in obsessive compulsive disorder (OCD) and major depressive disorder (MDD). The literature on excessive reassurance-seeking is, therefore, often associated with research on these two disorders (for review of research on reassurance-seeking and depression, see Starr & Davila, 2008); however, there is also research from the field of social psychology that examines this behavioral pattern in non-clinical populations. Below we will explore two central questions—(a) why do people engage in relationship-based excessive reassurance-seeking, and (b) are there certain personality characteristics or environmental factors that make it more likely for people to engage in this behavioral pattern?

When engaging in reassurance-seeking, many individuals realize that this behavior is frustrating for one's partner and potentially harmful for their relationship; yet, they engage in it anyway (Lavy, Mikulincer, & Shaver, 2010). This indicates that this behavioral pattern may often fall into the *tradeoffs* category of Baumeister's framework—individuals foresee that the behavior is self-destructive, and yet they do not desire this harm. It can be looked at as a short-term benefit (anxiety reduction) exchanged for a long-term cost (strain on the relationship). This pattern is common in reassurance-seeking among patients with OCD, who ask partners, therapists, or others around them for reassurance that they are not in danger, not at risk of contaminating themselves, not at risk of harming someone, etc. The behavior has been conceptualized in the field, specific to OCD patients, as precisely a tradeoff—a quick relief and reduction in anxiety when told by someone else that they are safe, but a short-lasting relief that dissipates as the doubt and uncertainty about safety resurfaces until it reaches a threshold where the reassurance-seeking must be repeated (Kobori, Salkovskis,

Read, Lounes, & Wong, 2012; Parrish & Radomsky, 2010). What is unique to this behavioral cycle in the realm of relationship-based anxiety, however, is that the content of the questions and the target to whom they are directed serve to directly place strain on the very relationship the individual is concerned about. Repeatedly asking a partner “Are you unhappy with me?” is likely to contribute to a partner feeling displeased with the reassurance-seeker, at least at the time of the questioning. So why do individuals with this type of anxiety find themselves unable to stop these questions, and in particular, the repetitive nature of these questions?

One of the primary reasons that individuals with relationship-based anxiety might continue to engage in reassurance-seeking despite the knowledge that it could be frustrating to partners is that the alternative, sitting with a sense of uncertainty about the status of the relationship, is so uncomfortable and distressing that it feels intolerable. In the literature on reassurance-seeking, the question of *causal uncertainty* has arisen—do people who engage in excessive reassurance-seeking have difficulty understanding cause-and-effect relationships in their social world? For example, do they have difficulty understanding that their partners’ negative moods might not be in response to something that they (the reassurance seekers) did or did not do? There is research showing that those who engage in excessive reassurance seeking also score high on a scale measuring causal uncertainty in the social world (J. Jacobson & Weary, 1999). The idea of causal uncertainty also would help to explain the *repetitive* nature of the questioning, given that when people feel uncertain about information, they often feel the need to “double-check” their understanding.

It is likely that there are many interconnected reasons why people engage in reassurance-seeking, but at its core, it appears to relate to an intense discomfort with feeling uncertain. There could be many reasons for the initiation and maintenance of this feeling of

uncertainty about the relationship, some of which are explored in the sections below.

However, regardless of how this feeling of uncertainty initially arose, when the primary goal is to reduce current discomfort, individuals engage in reassurance-seeking to eliminate the uncertainty of the moment, even though such actions may serve to increase tension in the relationship in the long-term. Even for those who are aware that these types of questions might be harmful to their relationship, the answer they receive from their partner in that moment (even a snappish “No, I’m not upset with you”) likely feels like a momentary release from the building tension of feeling unsure about where they stand with their partner.

Whether or not this behavioral pattern stems from some deficit in understanding causal relationships in the social world, or from certain entrenched patterns of thinking is an issue we will further explore in a subsequent section on common cognitive processes in individuals prone to relationship-based anxiety.

A great many personality factors and environmental factors—in short, individual differences in person and/or context—likely play into whether someone repeatedly engages in reassurance-seeking with a romantic partner. One such factor that has received attention by researchers is *sociotropy*, the degree to which an individual is concerned with maintaining interpersonal relationships and caring for the needs of others. As one might expect, sociotropy is associated with excessive reassurance seeking, such that those with higher degrees of sociotropy are more likely to engage in this behavior (R. Beck, Robbins, Taylor, & Baker, 2001; Birgenheir, Pepper, & Johns, 2010). Another variable that has been considered is the degree to which individuals are able to regulate their emotions during times of stress. For those with low self-regulatory capacity, who are more prone to act impulsively during times of negative emotion, excessive reassurance-seeking has been found to be a more

common coping strategy (Anestis, Selby, & Joiner, 2007). Finally, there are some personality measures that assess the degree to which an individual is able to comfortably exist in the world separately from a relationship partner. One such construct, termed *differentiation of self*, is central to Bowen family systems theory (Bowen, 1978). Low levels of self-differentiation (i.e., having a great deal of difficulty making decisions without the input of a partner, or trouble expressing opinions without knowing whether one's partner would agree) have been found to be associated with relationship distress (Skowron, 2000) and chronic anxiety (Miller, Anderson, & Keala, 2004). Those with low self-differentiation are likely to engage in more reassurance-seeking to stem their relationship-based anxiety.

While it is clear that there are likely certain personality traits that leave people more vulnerable to engaging in excessive reassurance-seeking, it is important to account for situational factors that contribute to this pattern as well. Primarily, it is vital to remember that this behavior is not occurring in a vacuum, but rather within an interactional context with a partner. Unfortunately, it can become easy for researchers to equate this behavior as a *trait* of a person, which could be an oversimplification. This has occurred at times in research based on attachment theory, with participants assumed to maintain life-long tendencies based upon their answers to questionnaires given at a single point in time. Certain relationships or certain partners may behave in a way that is more conducive to this behavioral pattern occurring, in a sense increasing the likelihood of excessive reassurance-seeking. One way this can occur is through the partner engaging in distancing or avoidance behaviors, leading to a demand-withdraw pattern (Sullaway & Christensen, 1983)—the more one partner distances him or herself, the more the other partner increases the intensity and repetitiveness of his or her reassurance-seeking. Furthermore, if a partner is not providing much support or positive

reinforcement in general (for whatever reason), an individual might respond with repeated bids for attention, affection, or reassurance in order to attempt to resolve unmet emotional needs. We will return later to the partner's role in greater detail, as the thoughts and behaviors of individuals with relationship-based anxiety are both in response to, and influential towards, the *partners'* thoughts and behaviors.

The environmental context is broader than the relationship itself, however—there are other situational factors that might contribute to a person engaging in excessive relationship-based reassurance-seeking. For example, for individuals who have more sparse social networks and find themselves frequently isolated, their partners can take on more powerful roles in their lives, as a great deal of social energy is invested in the partner. Therefore, individuals in this more isolated state might find themselves worrying about their relationships more and engaging in more reassurance-seeking, as they have “all their eggs in one basket.” Another broad environmental factor could be an increase in overall life stressors—if one's work or family life is stressful, that might lead to an increase in anxiety about one's relationship, as everything else seems unstable as well. However, this is likely an interactive effect with other variables. For some individuals, experiencing more general life stressors might make them feel closer and more secure with their partner, whereas others might experience an increase in relationship-based anxiety if they are already vulnerable to such experiences in other ways (e.g., if they have some of the personality traits described above as well). Overall, these vulnerability factors, whether based in personality traits, partner behaviors, or the broader environmental context, likely interact with each other to contribute towards the behavior of excessive reassurance-seeking.

Although reassurance-seeking is one strategy for reducing anxiety in the short-term, another common strategy for individuals with relationship-based anxiety is a form of interpersonal avoidance called *self-silencing*. This construct was first described by Jack (1991) in the context of exploring how women with depression interact with close others. The construct was broadened and explored in non-clinical populations with the development of a scale to measure its characteristics (Jack & Dill, 1992). Those who self-silence tend to keep their opinions to themselves and agree readily with those around them, even if this agreement is in conflict with their actual views. The goal is to avoid rejection by behaving in a manner that one anticipates one's partner would find acceptable. However, rather than contributing towards relationship functioning and individual well-being, self-silencing is associated with depression and relationship distress, and even with physical health conditions (Jack & Dill, 1992; Jack & Ali, 2010).

Self-silencing has received less attention in the research literature than excessive reassurance-seeking, although previous investigations demonstrate that one partner's self-silencing is associated with decreased relationship satisfaction not only for individuals engaging in the self-silencing, but for their *partners* as well (Thompson, 1995). A longitudinal study focused upon individuals making the transition to college life has shown that this type of emotional suppression can impair social functioning and lead to decreased closeness with others over time (Srivastava, Tamir, McGonigal, John, & Gross, 2009). Here again, evidence suggests that this behavioral pattern is self-defeating—although the individual hopes to appease his or her partner by engaging in self-silencing, in fact, it is associated with decreased partner satisfaction. These behaviors could fall under the category

of counterproductive strategies in Baumeister's framework, as the harm from the behavior is likely neither desired nor foreseen.

When examining these two broad categories of behaviors for coping with relationship-based anxiety, excessive reassurance-seeking and self-silencing, one might initially surmise that those who engage in excessive reassurance-seeking are not engaging in self-silencing, and vice versa. However, there is some evidence to suggest that after engaging in repeated reassurance-seeking, individuals tend to feel negatively about themselves, as they sense their intrusiveness and experience regret as a result (Lavy et al., 2010). Although there is not much literature examining the sequential nature of these coping strategies over time, one possibility is that following a period of excessive reassurance-seeking, individuals might engage in self-silencing in an attempt to avoid being intrusive and causing frustration for their partners, and sustain this strategy until their anxiety has reached a threshold where they feel they cannot contain their urge to seek reassurance any longer. However, other individuals might use self-silencing as a primary and sustained mode of interaction, in an attempt to avoid the possibility of causing tension with their partners or displeasing them. This type of sustained suppression of thoughts and emotions is likely not only ineffective (and actually counterproductive) for keeping relationship partners happy, but also likely contributes to an internal state of tension—research has shown that the more people try to suppress certain thoughts, paradoxically the more likely they are to think those very thoughts (Abramowitz, Tolin, & Street, 2001; Wenzlaff & Wegner, 2000). In this context, the content of those thoughts is likely to be related to fears that the partner has lost regard for the self-silencer or fallen out of love, and that some form of rejection might be imminent.

Contributing to this fear of rejection, individuals engaging in self-silencing often experience a pervasive sense of inauthenticity, and a sense that their partners do not really know them. In a study of relationship styles, Neff and Harter (2002) found that those who tend to put their partner's needs above their own feel that they have a "false self," which was associated with psychological distress. More specific to relationship-based anxiety, research has shown that when individuals are primed to feel more secure and that their relationships are stable and their partners highly committed, their feelings of self-authenticity increased, and they told fewer "white lies" to protect their partners' feelings (Gilliath, Sesko, Shaver, & Chun, 2010). In other words, honesty and directness were increased when individuals were primed to feel more secure in their relationships.

On the surface, it might seem surprising that a self-silencing strategy is received negatively by the other partner—having someone who almost always agrees with you and keeps their negative emotions to themselves could seem beneficial. It is important, however, that self-silencing strategies be considered within an interactional context. In the couples and relationships literature, a recurrent finding is that sharing emotions—both positive *and* negative—with a partner in an appropriate, reciprocal fashion is vital for relationship satisfaction. When one partner routinely initiates addressing concerns, and the other partner does not respond with a similar level of intimate disclosure, the relationship can suffer. The importance of the reciprocal and responsive nature of these disclosures for relationship intimacy has been demonstrated empirically, with daily diary studies showing that both self-disclosure and subsequent partner disclosure contribute towards the experience of intimacy in couples (Laurenceau, Feldman Barrett, & Pietromonaco, 1998). There is also research showing that when individuals are uncertain about the status of their relationships, they are

more likely to avoid discussion of difficult topics, and the more avoidance occurs, the more negative attributions are made by both partners towards each other regarding minor relational irritations (e.g., “He left the cap off of the toothpaste just to spite me”) (Theiss & Solomon, 2006). Therefore, avoiding a discussion of relationship concerns through self-silencing can contribute to building resentment and frustration for both partners.

Having explored some of the common behavioral patterns among individuals with relationship-based anxiety, it is important also to consider internal thought processes that may motivate or be related to some of these behaviors. The influence is likely bi-directional, however, with certain thought processes setting the stage for behavioral patterns, while enacting the behaviors and partner responses are also likely to influence reciprocally how an individual thinks about him or herself. At the core, the cognitive processes associated with relationship-based anxiety are no different from the cognitive processes at the core of almost any maladaptive anxiety disorder—an overestimation of the probability and the severity of a perceived threat. For relationship-based anxiety specifically, the perceived threat is the dissolution or devaluing of the relationship. Individuals with these concerns remain in a hypervigilant state, continually monitoring for cues that a partner is losing interest or displeased. This state can be seen as a form of attentional bias, a concept which has been increasingly explored in recent years. We will discuss attentional biases towards social threat in a section below, both more broadly and then focusing on biases within romantic relationships. In terms of overestimating the *severity* of the threat, it is clear that individuals with relationship-based anxiety are also more likely to be sensitive to rejection and can consider even mild instances of rejection to be catastrophic. We will also explore this

concept of sensitivity to rejection below and discuss how this cognitive style can turn into a self-fulfilling prophecy.

Individuals with relationship-based anxiety are continually monitoring for threat and exist in a state of hypervigilance. For example, a series of studies showed that those with tendencies towards anxious attachment were able to detect threats more quickly and better able to remember threat-relevant information in an experimental task in which they watched videos of a woman describing a threatening versus a neutral situation (Ein-Dor, Mikulincer, & Shaver, 2011). The authors described this state as a “sentinel” cognitive schema, in which individuals (a) remain vigilant, (b) react quickly and strongly to perceived threats, and (c) seek support from others at increasing levels if the initial support received does not ameliorate anxiety. Their description of this sentinel schema fits well with the idea of excessive reassurance-seeking. However, while such studies provide a framework for thinking about attentional bias in the context of relationship-based anxiety, because these individuals are not randomly assigned to be in high or low groups of relationship-based anxiety, it is unclear what types of causal processes may be at play. For example, there could be some factor other than their relationship-based anxiety that contributes towards them both feeling more anxious in their relationships and more vigilant towards threat in general. However, there has been recent research that seeks to disentangle this issue by using priming procedures.

Recently, psychologists in both the clinical and cognitive fields have become interested in exploring attentional biases and developing interventions for modifying these biases. In a seminal series of studies which led to a growth of research in this area, it was established through experiments using priming techniques that increase attentional bias

towards threat can actually *cause* increases in anxiety and emotional dysregulation (MacLeod, Rutherford, Campbell, Ebsworthy, & Holker, 2002; Wilson, MacLeod, Mathews, & Rutherford, 2006). Prior to this type of research, it was unclear whether anxiety created the attentional bias, or whether the bias contributed towards creating the anxiety. Although the relationship is likely still bi-directional, the knowledge that priming a bias towards social threat can increase symptoms of anxiety has led researchers to investigate whether reducing the bias towards threat can serve to reduce subsequent anxiety in a treatment context. For example, a randomized controlled trial showed promising effects of an attention re-training task in which socially anxious participants were taught over repeated trials to preferentially seek out the friendly face in an array of photographs of disgusted faces. 72% of individuals who received this intervention no longer met DSM-IV criteria for social anxiety, compared to 11% of those in a control condition, and these differences were maintained over a four month follow-up period (Schmidt, Richey, Buckner, & Timpano, 2009). These results were replicated by another research group using a double-blind randomized controlled trial using the same attention re-training task, with 50% of individuals in the intervention condition no longer meeting DSM-IV criteria for social anxiety, compared to 14% in their placebo control condition. These differences were also maintained over a four month follow-up period (Amir et al., 2009).

While these results require further exploration to determine the full extent of the efficacy of these interventions, the idea that attentional bias plays a role in the development and maintenance of social anxiety in general can help to inform researchers investigating relationship-based anxiety. Integrating findings from the field of relationships research, we can see that having an attentional bias towards threat can cause difficulties with one's

partner—and this is especially the case when the perceived threat is not external but is focused on the relationship itself. For example, a recent study investigating individuals with relationship-based anxiety found that they are more likely than individuals without these concerns to attend selectively to and actively seek out negative information about their relationships and about their partners (Rholes, Simpson, Tran, Martin, & Friedman, 2007). In addition to attending selectively to negative information about their partners, individuals with relationship-based anxiety are more likely to interpret ambiguous information from their partners in a negative light. For example, in a study in which individuals underwent a stressful task and received supportive messages from their partners, those who were high on attachment anxiety were more likely to interpret ambiguous messages as hurtful and unsupportive (Collins & Feeney, 2004). Again, we must be careful when interpreting these types of results not to equate anxious attachment or relationship-based anxiety as a lifelong trait, but rather as a feature influenced by personality and situational factors, especially by the interactional context with the partner. However, getting a sense of cognitive processes that are associated with relationship-based anxiety can help us to better understand what types of intervention might be helpful.

As more findings on attentional biases emerge, the field of relationships research has arrived at new ways of measuring what is often termed the “criticality bias” between partners. For example, one method is to have partners complete a videotaped discussion task, which is then rated by independent coders and by both members of the couples for perceived critical comments and nonverbal behavior. The degree to which there is a discrepancy between the independent coder and the member of the couple is their degree of bias (either positive or negative). The level of bias determined by this procedure has been shown to have

incremental predictive power for later relationship behaviors beyond that of self-reported perceived criticism and other common indices of relationship satisfaction (Peterson, Smith, & Windle, 2009). Higher levels of this criticality bias predict marital distress and individual depressive symptoms (Smith & Peterson, 2008). When people make negative attributions about their partner's verbal statements and behaviors, they often are not able to contain their responses to these perceived slights. One study investigating individuals who demonstrated the criticality bias based on a videotaped interaction task also showed that these same individuals were more likely to exhibit negative emotions and escalate conflicts with their partners (Campbell, Simpson, Boldry, & Kashy, 2005).

Some researchers, rather than hypothesizing that there is a criticality bias among those with relationship-based anxiety, speculate that these individuals *lack the positive bias* that many satisfied and secure partners seem to maintain about one another and their relationships. Such research demonstrates that, in fact, individuals with relationship anxiety are sometimes *more* accurate in detecting the emotions and judgments of their partners during observational tasks. However, this "empathic accuracy", was associated with a greater degree of distress and eventual relationship dissolution in a longitudinal study of individuals with relationship-based anxiety (Simpson, Ickes, & Grich, 1999).

Whereas the discussion above focused on vigilance for threat and overestimating the *probability* of the relationship being in danger, here we discuss the overestimation of the *severity* of the perceived threat. For individuals with relationship-based anxiety, any form of rejection, however subtle, can feel like a catastrophic harbinger of abandonment. Sometimes, this rejection can be ambiguous, such as a dating partner saying that he or she is too busy to come over that evening. At other times, the rejection can be more direct, such as a partner

expressing displeasure with some aspect of the relationship. Individuals can also perceive rejection that may not have been the intent of the partner, such as attributing a partner's bad mood to some aspect of the relationship, when in fact the partner was concerned about something work-related. Whatever the level of directness or clarity of rejection, some individuals are oversensitive to any of these cues and respond with intense distress. A scale has been developed to measure rejection sensitivity, and there is a growing body of research associated with its importance in close relationships. This research indicates that those who are highly sensitive to rejection tend to expect to be rejected and overreact to perceived slights from close others (Downey & Feldman, 1996). Furthermore, this set of linked cognitive and behavioral tendencies is associated with relationship distress both for individuals who have this sensitivity and for their partners (Downey & Feldman, 1996; Downey, Freitas, Michaelis, & Khouri, 1998). Individuals who demonstrate this sensitivity tend to engage in a strategy of behaving in a withholding manner towards their partners when they perceive that rejection is imminent.

Another construct that is closely associated with both rejection sensitivity and relationship-based anxiety, and perhaps moderates their association with each other, is self-esteem. Living with relationship-based anxiety for an extended period of time can serve to lower one's sense of self-worth—it is also likely that those with low self-worth are more likely to ruminate about their relationships. One study examined the differences between individuals with low and high self-esteem when they were led to believe that their partner perceived a problem in the relationship. The individuals with low self-esteem were more likely to experience this information as rejection and to generalize this comment from their partner to indicate dissatisfaction with their relationship as a whole (Murray, Rose, Bellavia,

Holmes, & Kusche, 2002). Other researchers have developed a construct called *relationship-contingent self-esteem* in which individuals value themselves based primarily upon how well their relationship is functioning. For individuals high in this construct, self-esteem appears to fluctuate based on daily events in their relationships (Knee, Canevello, Bush, & Cook, 2008).

Overall, we see that individuals with relationship-based anxiety tend to possess common cognitive patterns and strategies that can ultimately serve to deepen and generalize their anxiety. They are likely to be hypervigilant for signs of threat, and when they detect such a threat, they react to it as catastrophic. This reaction may or may not be witnessed by the partner, depending on the chosen strategy of the individual with anxiety—some may try to suppress their distress from outside view, while others may find themselves engaging in repeated reassurance-seeking or even engaging in hostile interactions with their partners based on their perceived rejection. As we have discussed throughout this review, the thoughts and behaviors of the individuals with relationship-based anxiety are intimately linked to and influenced by the thoughts and behaviors of their partners. We next turn to the partners' perspective, by examining common partner reactions to relationship-based anxiety, and how partner behaviors and attitudes may serve to contribute to, and, reinforce some of the behavioral patterns we have discussed thus far.

Interpersonal Processes Associated with Relationship-Based Anxiety

Relationship-based anxiety occurs within an interactional context. Another person is intimately involved with the process. There are certain behaviors a partner can enact that influence both the initiation and the maintenance of relationship-based anxiety in the other person. As we have seen, the types of behavioral strategies that those with relationship-based anxiety enact in order to cope can elicit frustration and distress in their partners. When

someone is being asked the same question repeatedly, their response will not be simply to provide the information every time in the same way. With repetition, a negative emotional response is likely to be heightened. Some researchers have even looked at this process of sensitization to repeated irritating relationship-partner behaviors as a sort of “social allergy,” with the allergic response being the heightened frustration with each repetition of the behavior (Cunningham, Shamblen, Barbee, & Ault, 2005). In response, many partners attempt to avoid the questions altogether, or behave in a way to pre-empt them. Below we discuss two categories of common partner responses—withdrawal and accommodation. These behavioral responses are accompanied by a range of partner emotions, such as anger (sometimes overt, sometimes suppressed) directed at the reassurance-seeker. At times, this anger might be openly displayed (e.g., snapping at the reassurance-seeking partner, being verbally aggressive, or more passively demonstrating irritation through eye-rolling or sighing upon receiving a bid for reassurance). At other times, the partner may hide his/her emotional response to avoid conflict with the reassurance-seeker.

The behavioral responses themselves are enacted by partners for a variety of reasons. For example, a partner may openly display frustration when being asked for reassurance in order to punish the reassurance-seeker for asking the question. Or, if avoidance of conflict is a more prominent goal for the partner in the interaction, he/she may accommodate to the reassurance-seeker by providing reassurance or even attempting to pre-empt it by hiding information from the reassurance-seeker that might provoke an anxious response (e.g., pretending to be in a good mood for the reassurance-seeking partner’s benefit). Finally, the partner may withdraw emotionally or physically from the reassurance-seeker with the goal of avoiding the aversive questioning altogether. These are by no means the only types of

behavioral response partners will engage in when responding to an individual's relationship-based anxiety, but these categories (withdrawal and accommodation) cover a wide range of partner coping strategies, many of which are well-intentioned but have the unfortunate outcome of contributing to maintaining a cycle of maladaptive behaviors.

A partner's behavior can serve both to elicit relationship-based anxiety initially, or contribute towards its maintenance. For example, if at the beginning of a relationship a partner is highly attentive and affectionate, and then abruptly "cools off" and becomes more emotionally distant, this can lead to a variety of responses in the other partner, including relationship-based anxiety and reassurance-seeking. There can be many reasons for this type of "cooling off." For many couples, this is a natural progression in a relationship, as the initial excitement of the courtship phase decreases and partners become more comfortable with each other and, perhaps, less passionate. While for many individuals this evolution does not cause significant distress, for some individuals (perhaps especially those prone to relationship-based anxiety, looking for threat cues) this can cause alarm. Outside of this normative progression, there are some couples who experience a mismatch in the amount of emotional support and closeness that each partner needs and desires (Epstein & D. Baucom, 2003). For these couples, the partner who desires more closeness but does not receive it might fall into a pattern of reassurance-seeking. How the other partner responds to this reassurance-seeking is another key factor to consider—some individuals may adjust their behavior accordingly to meet their partners' needs (e.g., spending more time together than they might naturally be inclined to do), while others might respond to bids for attention and reassurance with avoidance and distancing if they feel threatened or frustrated by these requests. One common interaction pattern that can develop in such cases has been termed

demand-withdraw (Sullaway & Christensen, 1983) and is associated with increased relationship distress (Heavey, Christensen, & Malamuth, 1995).

In the typical demand-withdraw interaction, one partner approaches the other with a bid for attention, a complaint, or an emotional request, and the other partner responds by withdrawing from the interaction. As this pattern continues, both partners' roles intensify—the partner making the demands will repeat his or her requests more frequently and urgently, and the partner withdrawing will isolate him or herself further in an attempt to escape these questions. In this way, each partner's behavior can be seen as both an antecedent and a consequence to the other partner's behavior (B. Baucom, McFarland, & Christensen, 2010). This can lead to a situation in which the partner only responds to bids for attention when they are made in an extreme way (e.g., accompanied by yelling or threats), which unfortunately serves to reinforce the notion that to get attention from one's partner, one must raise the intensity level to the point where one cannot be ignored. This pattern may be especially powerful for couples dealing with excessive reassurance-seeking, as the types of questions that are repeatedly asked can be particularly aversive for partners. Recently, researchers have found that individuals in the demand role tend to make more “hard-line” requests, leaving little room for negotiation (B. Baucom et al., 2011). It is unclear whether this would hold for individuals with relationship-based anxiety, who might be more inclined to use passive or softer influence strategies when engaging with their partners. While there is little empirical research focusing specifically on relationship-based anxiety within the context of demand-withdraw patterns in couples, this could be a fruitful avenue for future investigation.

For individuals with relationship-based anxiety and their partners, demand-withdraw is not the only possible interactional pattern. Rather than using withdrawal as an escape

mechanism, partners might attempt to create an environment for the anxious individual in which threatening experiences are avoided or removed, a process termed *accommodation*.

Partners often demonstrate love and concern for one another by trying to make life easier—for partners of anxious individuals, that might mean taking on tasks or managing the environment in a way that will reduce anxiety for that individual. For example, for individuals with a driving phobia who are in relationships, partners often become the primary drivers for the couple. For individuals with OCD, especially for those who have contamination obsessions, partners often help out with cleaning rituals and agree to avoid “contaminated” locations (Boeding et al., 2012). Unfortunately, this sort of accommodation can help to maintain symptoms in the long-term, although it might help to stem anxiety in the short-term. Within the context of relationship-based anxiety, partner accommodation can have especially detrimental effects, because nonanxious partners will begin to avoid discussing important relationship concerns in order to prevent the anxious individual from experiencing any distress. Open communication about both negative and positive topics is vital for any close relationship; therefore, this type of accommodation can ultimately lead to tension and relationship distress.

Partner accommodation within the context of relationship-based anxiety has been explored empirically. In a series of studies examining chronically insecure individuals and their partners, nonanxious partners reported a high level of vigilance to avoid upsetting the insecure individuals, often by concealing negative emotions and exaggerating positive emotions. These accommodation behaviors were associated with higher levels of relationship distress among the nonanxious partners (Lemay & Dudley, 2011). Nonanxious partners begin to feel as though they are “walking on eggshells,” and that they cannot say what is on their

mind without filtering it for the reassurance-seeker's benefit. Furthermore, nonanxious partners who hide their own emotions can begin to feel as though their partners do not really know them and can develop a pervasive lack of authenticity that is associated with individual as well as relationship distress. This sense of not being known is reinforced by the insecure individual's repeated requests for reassurance that the other partner is still engaged in the relationship—the repetitive nature of these questions can lead the nonanxious partner to think that the insecure individual does not view him or her as a credible source of information or even see him or her as a trustworthy person, which can be highly distressing (Swann & Bosson, 1999).

Overall, the accommodation behaviors that nonanxious partners engage in are typically ineffective, as these behaviors are associated with greater relationship distress for both partners. The individual with relationship-based anxiety is not given the type of feedback they would need to alter behaviors such as excessive reassurance-seeking because nonanxious partners hide their frustration. Swann, Stein-Seroussi, and McNulty (1992) found that individuals are unlikely to provide corrective feedback when speaking with someone with low self-worth; instead, they tend to mask irritation that they feel with increased statements of approval. Furthermore, the targets of this accommodation behavior are often able to detect the masked irritation, which can paradoxically lead to increases in their level of relationship-based anxiety, the opposite of the partners' intention. Several investigations have found that individuals with relationship-based anxiety detect their partners' attempts at accommodation and reassurance-provision, which leads anxious individuals to suspect their partners of inauthenticity even when their partners are *not* engaging in accommodation (Lemay & Clark, 2008; Lemay & Dudley, 2009). Therefore, although partners often have

good intentions when attempting to hide their negative emotions from the anxious individuals, this accommodation ultimately serves to create relationship distress and individual distress for both partners.

Overall, it is important to consider the partner's role in the development and maintenance of relationship-based anxiety, as this process necessarily exists within a dyadic context. When one partner increases the frequency of his or her reassurance-seeking, the other partner can respond in a number of ways that may contribute towards intensifying this pattern, or towards decreasing it. Unfortunately, as we have seen described above, a number of common partner responses can ultimately serve to maintain or intensify relationship-based anxiety, which can contribute to the deterioration of the relationship. If an intervention were to be developed for relationship-based anxiety, it would be vital to include both partners in the process, as they are both intimately involved in the cycle of reassurance-seeking and accommodation, or bids for closeness preceded and followed by partner distancing.

Clinical Implications

Overall, whereas relationship-based anxiety is a broad concept which can arise in a variety of disorders, we have seen that there are some common behaviors and thought processes that are likely to occur for individuals with this type of anxiety, as well as common partner responses to these behavioral patterns. We have seen that well-intentioned patterns such as (a) excessive reassurance-seeking and self-silencing on the part of individuals with relationship-based anxiety and (b) withdrawal and accommodation on the part of their partners often do not serve to ameliorate the anxiety in the long-term and are associated with relationship and individual distress for both members of the couple. In discussing the concept of relationship-based anxiety from a cognitive-behavioral perspective, our primary goal is to

demonstrate that this anxiety does not necessarily have to become a life-long “destiny” but is something that might be altered with appropriate intervention.

An intervention developed specifically to address these patterns in couples in which one member has relationship-based anxiety could prove to be valuable. More general therapeutic strategies might not be able to capture the unique difficulties encountered by these couples. Furthermore, individual therapy for the person with relationship-based anxiety would not be able to directly address the accommodation behaviors commonly enacted by partners. Including both partners in the process could allow the couple to see the patterns in their communication as reinforcing and building off of each other’s contributions to their difficulties. Many times, it is intuitive for partners to engage in accommodation behavior (e.g., providing reassurance), without realizing that it could actually serve to increase the cycle of reassurance-seeking. Even if both partners do realize that their communication patterns may be maladaptive, often neither partner has alternative strategies for managing the problem, leading to both partners feeling “stuck” in the cycle. Therefore, the development of a specialized intervention for couples experiencing these patterns might be helpful and a worthwhile endeavor, as many couples struggle with relationship-based anxiety.

An important initial step in any intervention addressing relationship-based anxiety will be providing feedback to the patient and his or her partner about the common behavioral patterns associated with it, and how these can impact the couple’s relationship. Following such feedback, couples could be provided with basic communication skills training based on the core principles of cognitive-behavioral couple therapy (Epstein & D. Baucom, 2003) presented as an adaptive alternative to the reassurance-seeking/providing cycle or self-silencing. These skills can provide the individual experiencing relationship-based anxiety

with a safe, structured set of guidelines for sharing their own emotions and thoughts with their partner, during which the partner's role is simply to listen and reflect. These communication roles also can be reversed, so the partner is given an opportunity to express both negative and positive emotions honestly, rather than engaging in accommodation behaviors.

In addition to providing feedback and teaching well-established couples communication skills, another key empirically-informed intervention would be providing exposure-and-response-prevention treatment. This might be most relevant for those engaging in excessive reassurance-seeking; however, those engaging in self-silencing might also benefit from an exposure-based approach. In either case, the images, thoughts, and situations to expose the patient to could be targeted towards their specific relationship-based concerns, but will likely include foci such as: thoughts of a partner leaving or cheating, images of being alone, suspicions that a partner's bad mood might be relationship-related, etc. Patients would purposely call to mind these thoughts or approach anxiety-provoking situations, in order to sit with their doubt and uncertainty until anxiety dissipates, rather than attempting to escape or avoid this discomfort. Such techniques already have been found to be effective in a couples' context—for example, a recently developed couple-based intervention for OCD using exposure-and-response prevention strategies was found to be highly effective in treating OCD and in increasing relationship satisfaction for both partners (Abramowitz et al., in press).

Finally, there have been a series of recent investigations demonstrating the powerful effects of attention-retraining and priming procedures in reducing attentional biases towards threat (Amir et al., 2009; Beard & Amir, 2008; Dandeneau, Baldwin, Baccus,

Sakellaropoulou, & Pruessner, 2007; MacLeod et al., 2002; Schmidt et al., 2009; Yiend, Mackintosh, & Mathews, 2005). It is possible that such procedures could be beneficial to those with relationship-based anxiety, in terms of altering biases towards perceived relational threats. This has already been attempted in a series of experiments using priming procedures with individuals identified as having insecure attachment styles. These studies have demonstrated that it is possible to shift these attachment styles over time using priming procedures that repeatedly call to mind times in individuals' lives where they felt secure in their relationships and their partners' regard for them (Carnelley & Rowe, 2010; Gilliath, Selcuk, & Shaver, 2008; Mikulincer & Shaver, 2007). Other researchers have targeted pessimistic misinterpretations that individuals with relationship-based anxiety or low self-worth tend to make when presented with ambiguous messages from their partners. In one study, individuals were taught to reframe such messages from their partners in a more abstract way in order to perceive the message as it was intended, rather than as a slight (Marigold, Holmes, & Ross, 2007).

Integrating couples communication training and exposure-and-response prevention could prove to be a powerful suite of interventions for treating relationship-based anxiety. If both partners are included and made aware of maladaptive patterns, that would set the groundwork for making a collaborative change through shifting their communication to be more in line with long-term symptom improvement, as opposed to short-term relief and avoidance. Furthermore, if the individual with relationship-based anxiety is provided with strategies for sitting with uncertainty in a structured way, such couple-based interventions in tandem have the potential to reduce behavioral patterns such as excessive reassurance-

seeking, self-silencing, and partner accommodation, and, therefore, potentially help to relieve a great deal of suffering for couples dealing with relationship-based anxiety.

CHAPTER 2: CURRENT INVESTIGATION

Introduction

The present investigation had two primary aims. The first was to gain a better understanding of the strategies that individuals with relationship-based anxiety use to mitigate their anxiety (such as excessive reassurance-seeking and self-silencing), and to examine how these strategies are associated with partner behaviors and with both partners' relationship satisfaction. To explore this first aim, a sample of couples recruited from the UNC community completed online questionnaires assessing their level of relationship anxiety, reassurance-seeking and self-silencing behaviors, and the degree to which individuals accommodate to their partners' concerns.

The second aim of the present investigation was to pilot-test a brief, couple-based intervention designed to offer couples information about common maladaptive communication patterns associated with relationship-based anxiety and to provide them with alternative strategies for communicating with each other about such concerns. The intervention incorporated elements of broad couple communication interventions along with exposure-based treatment techniques in order to target specific maladaptive interaction patterns seen in couples with a partner experiencing relationship-based anxiety. As discussed in the above review, when individuals engage in excessive reassurance-seeking to reduce their relationship-based anxiety or silence their own concerns to appease their partners, it can be detrimental to individual well-being as well as harmful for couples' relationships. Therefore, we predicted that the intervention would serve to increase relationship satisfaction

and individual well-being for both partners, through reducing the frequency of maladaptive behaviors such as reassurance-seeking, self-silencing, and accommodation. The rationale and an outline of the intervention is provided below.

There has been intervention research demonstrating that providing even brief feedback to couples about specific maladaptive behavioral and communication patterns can be associated with an increase in relationship satisfaction—this was most notably demonstrated with the “marriage check-up” program, a two-session intervention providing couples with assessment feedback and suggestions for behaviors to attend to in their relationships (Cordova, Scott, Mirgain, Yaeger, & Groot, 2005). One primary goal of such an approach is to reach larger numbers of couples who might otherwise not seek treatment—the intervention serves in part as a precursor to more intensive therapy, should the couple require it (Morrill et al., 2011). It might be particularly difficult for individuals with relationship-based anxiety to suggest couple therapy to their partners, given their proclivity to “not rock the boat” in their close relationships; therefore, this type of brief feedback format might be particularly suited to this population.

The current study is a unique contribution to the literature in several respects. First, many studies exploring reassurance-seeking or relationship-based anxiety collect data from one partner without full consideration of the dyadic context in which these interactions occur. The current study collected data from both members of a couple. Furthermore, there are no prior studies examining how several behavioral strategies (both from the individual with relationship-based anxiety and from his/her partner) are associated with outcomes such as relationship satisfaction and individual functioning, which is one aim of the current investigation. A more nuanced understanding of these behavioral strategies could help to

inform targeted interventions for relationship-based anxiety. Another unique contribution of this study was the development and testing of a brief, couple-based intervention for relationship-based anxiety. Although there are several highly effective interventions to address couple communication difficulties, there is currently no existing intervention that specifically targets the maladaptive interaction patterns commonly occurring between individuals with relationship-based anxiety and their partners. Therefore, the evaluation of the intervention carried out in the second phase of the current investigation was exploratory in nature, and the information gained from this pilot intervention will hopefully inform more comprehensive treatments for relationship-based anxiety developed in the future.

Each of the two studies are presented in more detail below. First, the hypotheses, methods, and results of the first study (the online questionnaire study) are presented, and then the second intervention study is presented.

Study 1: Hypotheses

Relationship-based anxiety has been found to be associated with a variety of behavioral strategies, enacted both by the individual with the anxiety and by his or her partner. These strategies include excessive reassurance-seeking, self-silencing, and partner accommodation; all of which have been found in past research to be associated with lower relationship satisfaction and lower individual functioning. In the current investigation, a model was proposed relating these various strategies and outcomes in a series of hypothesized links (see Figure 1 for the conceptual model) which was tested using path analysis.

It was hypothesized that those with higher levels of relationship-based anxiety are more likely to engage in excessive reassurance-seeking. Reassurance-seeking could be used

as a strategy to reduce relationship-based anxiety temporarily. This reassurance-seeking can take the form of direct questioning (e.g., “Do you still care about me?”, “Are you upset with me?”) or can be more indirect in nature (e.g., carefully monitoring one’s partner’s moods and body language for assurance that they are engaged in the relationship). While these strategies may provide temporary relief from the anxiety of feeling uncertain about one’s relationship status (depending on one’s partner’s response), these effects are likely short-lived, requiring repetition of these reassurance-seeking questions.

It was also hypothesized that those with greater relationship-based anxiety are more likely to self-silence—keep their opinions to themselves so that they will not be perceived as in conflict with the opinions of their partners, which they believe might threaten their relationships. As discussed in the literature review, those with relationship-based anxiety often have trouble revealing their “true selves” to their partners, due to a fear of rejection. Expressing a dissenting opinion or preference to their partner is not perceived to be worth the risk of their partner’s disapproval, however slight that risk that may be. For many types of anxiety, there is an exaggerated perception of risk, and one way that could manifest itself within the context of relationship-based anxiety is through increased self-silencing behaviors.

It was hypothesized that higher levels of reassurance-seeking in one partner are associated with higher levels of accommodation behavior in the other partner. More precisely, there is likely to be a positive and bi-directional association between reassurance-seeking behavior of one partner and the accommodating behavior of the other partner—the more repeated questioning and monitoring the anxious partner engages in, the more likely the other partner is to hide his or her own concerns and negative emotions as a strategy for pacifying the anxious partner. While accommodation is not the only possible partner

response (e.g., the partner may become frustrated or withdraw from the relationship in response instead), for the purposes of the current study, we will focus our attention on this particular partner behavioral strategy of accommodation.

It was hypothesized that higher levels of partner accommodation behavior are associated with decreased overall relationship satisfaction for both partners. In previous investigations, it has been found that accommodation behaviors are frustrating and exhausting for both the accommodating partner and for the partner being pacified (Lemay & Dudley, 2011). Such strategies can lead to an increase in relationship-based anxiety and tension, which is predicted to be reflected in both partners' reports of their overall relationship satisfaction.

Self-silencing on the part of the anxious individual was hypothesized to be associated with lower relationship satisfaction for both members of the couple. Unlike with reassurance-seeking, partners may not be immediately aware that the anxious individual is engaging in self-silencing. However, when self-silencing is occurring at high levels, previous research has shown that it can impact both partners' individual and relationship functioning (Thompson, 1995). For individuals who self-silence, an increasing sense that their partners do not really know them authentically can arise, leading to individual distress and relationship dissatisfaction. For partners, although they might not always be aware that this self-silencing is occurring at the moment, they can become aware of a pattern in which the anxious partner rarely expresses an opinion contrary to their own. This can become frustrating, as it can seem as though the anxious partner does not have any opinions of his or her own, and nonanxious partners can feel that they are being overly depended on to make all

the decisions. Therefore, although self-silencing is not an overt behavior, it is hypothesized that it will be associated with decreased relationship satisfaction for both partners.

Study 1: Methods

To investigate the first aim of this investigation, 103 couples were recruited via two online sources: (1) the undergraduate participant pool, and (2) a campus-wide informational recruitment email. Students recruited via the participant pool completed an online survey and had the option of sending a link to their partner to also complete the survey. Students received course credit, and their partners received a \$10 Amazon gift card for participating. The campus-wide informational email recruited couples from the broader UNC community, and the couples were compensated with a \$10 Amazon gift card if both partners completed the online survey. To be eligible to participate, both partners had to be older than age 18, speak English, and have been in their current relationship for at least 3 months.

Of the 103 couples recruited, 97 were heterosexual and 6 were same-sex couples (5 of the same-sex couples were female-female, and one was male-male). For the purposes of the path analysis, the 6 same-sex couples were dropped from the dataset as gender was used as the variable to distinguish individuals within dyads. All subsequent statistics for phase 1 will report on the 97 heterosexual couples in this reduced dataset. Age in the sample ranged from 18 to 61 ($M = 27.22$; $SD = 10.68$). In terms of ethnicity, participants were 80.4% Caucasian, 7.7% African American, 6.2% Asian, 4.1% Hispanic, and 1.6% Multiracial or Other. Most of the couples in our sample had been in their relationship for over two years (30.9% over 5 years, 33.0% 2-5 years, 17.5% 1-2 years, 11.9% 6 months – 1 year, 6.7% 3 – 6 months). As our sample was recruited from a university setting, our participants were mostly college educated or currently working on their college degree (4.1% high school degree, 46.9% some

college, 16.4% bachelor's or associate's degree, 22.7% some graduate school or masters degree, 9.8% doctoral or other professional degree).

All participants completed a brief demographics questionnaire asking about their age, gender, ethnic background, level of education, occupation, and length of romantic involvement with their current partner.

All participants completed two measures assessing relationship-based anxiety. The Experiences in Close Relationship Scale Short Form (ECR-S; Wei, Russell, Mallinckrodt, & Vogel, 2007) is a 12-item self-report measure assessing anxious and avoidant attachment styles in close relationships. Although this is a measure of insecure attachment, its items capture the construct of relationship-based anxiety as defined in this paper as well (e.g., at the state as opposed to the trait level). For the current study, we were primarily interested in the anxious attachment subscale of the ECR-S, which has been found to have adequate internal consistency ($\alpha = .77$) and test-retest reliability ($r = .80$). Sample items from this subscale include: "I need a lot of reassurance that I am loved by my partner," and "I worry that my partner won't care about me as much as I care about him/her."

In order to capture a fuller picture of relationship-based anxiety beyond an attachment-based measure, the survey also included the Differentiation of Self Inventory-Revised (DSI-R; Skowron & Schmitt, 2003), a 46-item self-report measure assessing the degree to which an individual has difficulty existing in the world separately from his or her relationship partner. The DSI-R has excellent internal consistency ($\alpha = .92$) and convergent validity with measures of related constructs. It consists of four subscales: (1) Emotional Reactivity (measuring degree of emotional sensitivity to interpersonal events; sample items: "If I have had an argument with my partner, I tend to think about it all day," and "I'm overly

sensitive to criticism”); (2) “I” Position (measuring the lability of one’s sense of self; sample items: “My self-esteem really depends on how others think of me,” and “I often change my behavior simply to please another person”); (3) Emotional Cutoff (measuring fears of intimacy in relationships and associated behaviors; sample items: “I tend to distance myself when others get too close to me,” and “When I’m with my partner, I often feel smothered”); and (4) Fusion with Others (measuring dependence of self-worth on others’ perceptions, sample items: “I feel a need for approval from virtually everyone in my life,” and “I often agree with others just to appease them”). For the purposes of our analyses, the “Emotional Cutoff” subscale was not used, and the other three were analyzed as one composite score.

The Depressive and Obsessive Reassurance Seeking Scale (DORSS; Radomsky, Parrish, & Dugars, 2009) is a 30-item self-report measure of excessive reassurance-seeking. The DORSS is a new measure that has been found to exhibit good test-retest reliability, internal consistency, and convergent validity with established measures of depressive and anxious symptoms. Sample items include: “I am always ‘testing’ my friends and family to see if they really care about me,” “I look to other people’s moods when they are around me to determine whether they like me,” and “I annoy people with repeated requests for reassurance about their feelings for me and this causes problems in my relationships.”

Participants also completed the reassurance-seeking subscale of the Depressive Interpersonal Relationships Inventory (DIRI; Joiner & Metalsky, 2001). This 4-item subscale was found to have good internal consistency ($\alpha = .88$) and validity established through its association with related measures. For the current study, the items were modified to be partner-specific, as opposed to referring to close relationships in general. Sample items include: “I often ask my partner how he/she truly feels about me,” (original: “Do you find yourself often asking the

people you feel close to how they truly feel about you?") and "I frequently seek reassurance from my partner as to whether he/she really cares about me." (original: "Do you frequently seek reassurance from people close to you about whether they really care about you?").

The Silencing the Self Scale (STSS; Jack & Dill, 1992) is a 31-item self-report measure of the degree to which one suppresses the expression of personal concerns in close relationships. The reliability and validity of this measure have been established in college student and community samples, with excellent internal consistency ($\alpha = .88$ to $.93$), test-retest reliability ($r = .88$ to $.93$), and convergent validity with related constructs. Sample items include: "I feel I have to act in a certain way to please my partner," "Instead of risking confrontations in close relationships, I would rather not rock the boat," and "I think it's better to keep my feelings to myself when they conflict with my partner's."

Participants completed two measures assessing their accommodation behaviors. The Family Accommodation Scale (FAS; Calvocoressi et al., 1999) is a 13-item self-report measure designed to assess the degree to which family members accommodate a patient's OCD symptoms, including reassurance-seeking. This measure was modified for the purposes of the current study to address accommodation to relationship-based reassurance-seeking. Internal consistency for the original scale is good ($\alpha = .82$), and it has demonstrated both convergent and discriminant validity in community samples. Sample modified items include: "How often did you reassure your partner about the status of your relationship?" (original: "How often did you reassure your partner with OCD?") and "Have you avoided doing things, going places, or being with certain people because of your partner's anxiety about your relationship?" (original: "Have you avoided doing things, going places, or being with people because of your partner's OCD?").

Participants also completed four items assessing *partner responses* to reassurance-seeking (including degree of accommodation). This brief scale was created by a research team investigating reassurance-seeking and partner accommodation (Lemay & Clark, 2008), and it was found to have adequate internal consistency across several studies ($\alpha = .80$ to $.86$). Sample items include: “I censor my thoughts and feelings in order to avoid hurting my partner’s feelings,” “I walk on eggshells (am overly cautious) around my partner,” and “I often say things I don’t mean in order to make my partner feel good.” In addition, participants completed the same items worded to address their perception of their partners’ accommodation behavior (e.g., “My partner often says things he/she doesn’t mean in order to make me feel good”).

The Abbreviated Dyadic Adjustment Scale (ADAS; Sharpley & Rogers, 1984) is a 7-item self-report measure of global relationship satisfaction. The ADAS has shown good internal consistency ($\alpha = .76$) and has been validated through its capacity to discriminate maritally distressed couples from maritally satisfied couples in community samples.

The Inclusion of Other in the Self Scale (IOS; Aron, Aron, & Smollan, 1992) is an image-based measure of relationship closeness in which participants select from a series of intersecting circles displaying the degree of perceived overlap between oneself and one’s partner. The IOS has demonstrated good test-retest reliability ($r = .85$), and it has demonstrated both convergent and discriminant validity in a community samples of couples. In the current study, the visual array was presented twice, with two verbal prompts, the first: “Select the image that best represents the current state of your relationship,” and the second: “Select the image that best represents how you would like your relationship to be.”

Participants completed two measures assessing current depressive and anxious symptoms. The Center for Epidemiologic Studies Scale for Depression (CES-D; Radloff, 1977) is a 20-item self-report measure of symptoms of depression. This is a frequently used brief measure of depressive symptoms and has demonstrated good internal consistency ($\alpha = .85$) in a variety of community and psychiatric samples. The Beck Anxiety Inventory (BAI; A. Beck, Epstein, Brown, & Steer, 1988) is a 21-item measure of symptoms of anxiety. It has demonstrated good internal consistency ($\alpha = .90$) and test-retest reliability in a community sample (Creamer, Foran, & Bell, 1995). Participants also completed the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), a ten-item measure of self-worth. The RSES is a well-validated and reliable measure; in the current study, participants rated items on a four-point scale (1 = *strongly disagree*; to 4 = *strongly agree*).

Participants completed a measure assessing levels of autonomy and sociotropy, personality variables indicating level of dependence on interpersonal relationships. The Personal Style Inventory (PSI; Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994) is a 48-item self-report measure with subscales for autonomy and sociotropy. It has demonstrated good test-retest reliability and internal consistency, as well as construct validity (Robins et al., 1994). Only the sociotropy subscale was used for the purposes of the current study as an *instrumental variable* (see section below for further explanation of this term).

Prior to testing the study's main hypotheses, several preliminary analyses were conducted. First, means and standard deviations for the main study variables were obtained, and paired sample *t*-tests were conducted to determine whether men and women significantly differed on these variables. In addition, correlation matrices including all study variables were obtained for women and men, and a correlation matrix examining *cross-partner*

associations among the main study variables was also obtained. The main hypotheses for this phase of the study were tested using path analysis (PA). All models were estimated using MPLUS Version 6.1 (Muthén & Muthén, 2008) and the maximum likelihood (ML) estimator. Length of relationship, gender, ethnicity, and age were included as control variables. The significance of all parameter estimates was examined using 95% confidence intervals.

The portion of the PA model in which there is a positive feedback loop between one partner's reassurance-seeking and the other partner's accommodation is known in dyadic data analysis as a *mutual influence model* (Kenny et al., 2006). For this portion of the model to be uniquely estimated (i.e., identified), it was required that the variables within the feedback loop (reassurance-seeking and partner accommodation) were each predicted by a separate *instrumental variable*. For reassurance-seeking, relationship-based anxiety served in the role of instrumental variable, because it is not directly related to accommodation, the other variable in the feedback loop. However, an additional instrumental variable was necessary to include for accommodation. Kenny et al. (2006) recommend selecting a relevant individual difference or personality variable as an instrument, as such variables are only associated with that individual directly. Therefore, a measure of sociotropy was included as an instrumental variable for accommodation (Personal Style Inventory; Robins et al., 1994). Individuals higher in sociotropy experience more concern with maintaining their interpersonal relationships. This trait was selected as an instrument as it was hypothesized it would be positively associated with accommodation behaviors. As this variable served as an instrument but was not of central theoretical interest, it was not included in the overall conceptual model but can be seen in the operational diagram for this portion of the model

(see Figure 2). This operational diagram was rotated from the original conceptual model in order to represent a classic mutual influence model, which is appropriately identified and can be estimated using PA (Kenny et al., 2006; James & Singh, 1978).

The second portion of the model, in which self-silencing and partner accommodation were hypothesized to be negatively associated with both partners' relationship satisfaction, represents a different type of dyadic model called an Actor-Partner Interdependence Model (APIM). In this type of model, it is hypothesized that an independent variable measured in one individual is associated with a dependent variable measured in that same individual (actor effect) and is also associated with the same dependent variable measured in that individual's partner (partner effect). In Figure 3, the paths representing the actor and partner effects within this portion of the current model are labeled with the letters A (actor effect) and P (partner effect). This portion of the model does not require the addition of any instrumental variables, as there are no feedback loops, all the hypothesized relationships are uni-directional, and it is therefore appropriately identified and can be uniquely estimated. To account for the non-independence in the data due to its dyadic nature, the disturbances (i.e., error terms) of the dependent measure of relationship satisfaction were allowed to be correlated in the model, as recommended by Kenny et al. (2006).

Unlike multiple regression, which only allows for one dependent variable to be entered into the equation, PA allows the investigator to examine relationships among multiple independent and dependent variables simultaneously. This technique also allows for an examination of both direct and indirect relationships between the study variables; therefore, it was possible to evaluate whether certain variables mediated the relationship between other variables. Because PA allows for multiple dependent variables to be entered

simultaneously, this decreases the rate of Type I error that would be seen if one analyzed each association separately using multiple regression. PA also provides overall goodness-of-fit indices for the proposed model in addition to the information provided about the significance of each individual path. Several commonly employed model fit indices were used to evaluate the model. Adequate model fit is typically indicated by a non-significant chi-square (Schumacker & Lomax, 2004); Tucker Lewis Index (TLI; Tucker & Lewis, 1973) and Comparative Fit Index (CFI; Bentler, 1990) values larger than .95; and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980) values between .05 and .06 (Hu & Bentler, 1999). The R^2 values for the model outcome variables were also examined to determine the amount of variance in each outcome that was accounted for by the model. Follow-up analyses also were conducted to assess the relative magnitude of the direct and indirect effects within the model.

Study 1: Results

Means, standard deviations, and paired-*t* test results for all the main study variables are presented in Table 1. The means and standard deviations for study variables were within the range of values that were expected with our non-clinical sample. The means in our sample for differentiation of self, self-silencing, reassurance-seeking, accommodation, and intolerance of uncertainty were very much in line with the means found for the college student samples used in the validation of those scales. These variables were mostly normally distributed, although reassurance-seeking and accommodation had some positive skew, which makes sense given our sample was non-clinical. The means for anxious and avoidant attachment in our sample were similar, though slightly lower, than the means found in the original validation study for the ECR-S. However, most of the college students in the ECR-S

validation study were single, and all of our participants were members of a couple, so the two samples are perhaps not an appropriate comparison. Avoidant attachment was fairly positively skewed in our sample, and anxious attachment was slightly positively skewed.

In terms of relationship satisfaction, scores ranged from 11 to 34 (from a possible 0 to 36 on the ADAS), with an overall mean of 25.84 ($SD = 4.57$). In the original validation study for the ADAS, married individuals scored an average of 23.2, compared with divorced individuals average score of 15.2. In our sample, only 5 participants (2.6% of the sample, 3 women and 2 men) scored a 15 or below on the ADAS. Overall, our sample primarily consisted of highly satisfied couples; therefore, the distribution for relationship satisfaction was slightly negatively skewed. In the realm of depressive and anxious symptoms, our sample scored low on symptoms overall. Therefore, distributions of both the CESD and BAI were positively skewed, as expected for our non-clinical sample; however, participants scores did cover almost the entire possible range for these variables. For depressive symptoms, scores ranged from 0 to 52 (from a possible 0 to 60 on the CESD), with an overall mean of 11.07 ($SD = 9.27$). Researchers have used a clinical cut-off of 16 for the CESD—in our sample, 45 participants (24% of the sample, 24 women and 21 men) scored a 16 or higher on the CESD. For anxious symptoms, scores ranged from 0 to 59 (from a possible 0 to 63 on the BAI), with an overall mean of 6.32 ($SD = 8.75$). Researchers have also used a clinical cut-off of 16 for the BAI—in our sample, 19 participants (10% of the sample, 9 women and 10 men) scored 16 or higher on the BAI.

Paired-*t* test results (see Table 1) indicated that men and women significantly differed on several key study variables. Women scored significantly higher than men on anxious attachment and reassurance-seeking whereas men scored significantly higher than women on

avoidant attachment, differentiation of self¹, self-silencing, and accommodation. Although no specific predictions about gender differences were made for the current study, these results are mostly in line with prior research except for the finding that men scored significantly higher on self-silencing. Past research has typically found no gender difference or that women score significantly higher on this construct. In the current study, no significant gender differences were found on intolerance of uncertainty, relationship satisfaction, depressive symptoms, or anxious symptoms.

Tables 2 (women) and 3 (men) present within partner correlations among all of the main study variables. Overall, many of the study variables were significantly correlated with each other for both men and women. However, these associations tended to be of greater magnitude for women than for men. For women, the only variables that were not significantly associated with each other were avoidant attachment with intolerance of uncertainty and with anxious symptoms. Variables that were especially highly correlated (above .60) for women were reassurance seeking with anxious attachment and with depressive symptoms; self-silencing with differentiation of self and with accommodation; and depressive symptoms with anxious symptoms. For men, the intolerance of uncertainty variable was not significantly associated with anxious or avoidant attachment, accommodation, or relationship satisfaction. The correlations for men were less strong overall than those for women, with only one association greater than .60 — self-silencing with accommodation.

Table 4 presents cross-partner associations for the main study variables. These associations ranged from .01 to .57. The strongest associations were women's reassurance-

¹ Note that higher scores on differentiation of self indicate more independence and less reliance on others for a sense of self-worth.

seeking with their partners' accommodation ($r = .57$) and men's reassurance-seeking with their partners' accommodation ($r = .55$). The values along the diagonal of Table 4 indicate the association between common variables for men and women. There were significant positive correlations between partners on anxious attachment, avoidant attachment, differentiation of self, reassurance-seeking, and relationship satisfaction. Partners' scores on self-silencing, accommodation, intolerance of uncertainty, and depressive and anxious symptoms were not significantly associated with each other.

Both men and women scored lower on relationship satisfaction when their partners scored higher on anxious attachment, self-silencing, reassurance-seeking, accommodation, or depressive symptoms. Women reported more depressive symptoms when their partners reported higher anxious attachment, higher reassurance-seeking, lower differentiation of self, or lower relationship satisfaction. Men reported more depressive symptoms when their partners reported higher anxious or avoidant attachment, higher reassurance-seeking, higher accommodation, or lower relationship satisfaction.

Two variables emerged as having fewer significant cross-partner associations: anxious symptoms as reported on the BAI and intolerance of uncertainty. Men's anxious symptoms were only significantly positively associated with their partners' scores on attachment anxiety. Women's anxious symptoms were only significantly positively associated with their partners' scores on reassurance-seeking and accommodation. Men's scores on intolerance of uncertainty were not significantly associated with any of their partners' variables. Women's intolerance of uncertainty scores were positively associated with their partners' scores on reassurance-seeking, and negatively associated with their partners' scores on differentiation of self and relationship satisfaction.

Path analysis was conducted using MPLUS Version 6.1 (Muthén & Muthén, 2008) and the maximum likelihood (ML) estimator to evaluate the primary hypotheses of the study. The proposed model (see figure 1) was tested, with length of relationship, gender, ethnicity, and age included on all paths as control variables. Only gender emerged as a significant covariate (on two paths, relationship anxiety predicting self-silencing and relationship anxiety predicting reassurance-seeking), so all other control variables were dropped from subsequent tests of the model. The feedback-loop proposed in the model between reassurance-seeking and partner accommodation was not supported, as only the path from reassurance-seeking to partner accommodation was significant (and not the reverse path from partner accommodation to reassurance-seeking). Therefore, to decrease the complexity of the model and to eliminate the need for an external instrumental variable, the model was simplified by dropping this reverse path (see Figure 4). All subsequent analyses reported below were conducted on this simplified version of the model.

While every path of the model was significant and in the hypothesized direction (see Figure 5 and Table 5), the fit statistics indicated a poorly fitting model overall (RMSEA = 0.12; CFI = 0.94; TLI = 0.85; $\chi^2(20) = 382.74$, $p < .0001$). The poor model fit is likely due to omitted variables that also have an influence on the constructs measured in the study. However, the intent was not to evaluate every variable that might impact relationship satisfaction and the other model variables, but rather to examine their inter-relationships. From the R^2 values, the variance accounted for in each of the dependent variables can be examined: 47% of the variance in reassurance-seeking was accounted for by relationship anxiety; 20% of the variance in self-silencing was accounted for by relationship anxiety; 33% of the variance in one partner's accommodation was accounted for by the other partner's

reassurance-seeking; 31% of the variance in one's own relationship satisfaction was accounted for by partner accommodation and one's own self-silencing, and 34% of the variance in the partner's relationship satisfaction was accounted for by the partner's accommodation and one's own self-silencing.

Each of the primary hypotheses for study 1 can be examined in turn. The first hypothesis (1a) was that relationship anxiety would be positively associated with reassurance-seeking and self-silencing. In the tested model, this hypothesis was supported—relationship anxiety (represented by the anxious attachment scale) was significantly and positively associated with both reassurance-seeking and self-silencing (see Table 5). It was found that a one standard deviation unit increase in relationship anxiety was associated with a .66 standard deviation unit increase in reassurance-seeking, and a .40 standard deviation unit increase in self-silencing.

The second hypothesis (1b) was that one partner's reassurance-seeking would be positively and bi-directionally associated with the other partner's accommodation behavior. This hypothesis was only partially supported, in that the path from reassurance-seeking to partner accommodation was significant and positive, but the reverse path was non-significant. A one standard deviation unit increase in reassurance-seeking was associated with a .57 standard deviation unit increase in the other partner's accommodation behavior.

The third hypothesis (1c) was that greater accommodation would be associated with lower relationship satisfaction in both partners (the accommodator and his or her partner). This hypothesis was supported. A one standard deviation unit increase in accommodation was associated with a .35 standard deviation unit decrease in the accommodator's

relationship satisfaction, and a .20 standard deviation decrease in the partner of the accommodator's relationship satisfaction.

Finally, the fourth hypothesis (1d), that more self-silencing would be associated with lower relationship satisfaction for both partners (the self-silencer and his or her partner) was also supported. A one standard deviation increase in self-silencing was associated with a .32 standard deviation decrease in the self-silencer's relationship satisfaction, and a .32 standard deviation decrease in the partner's relationship satisfaction.

As reported above, only gender emerged as a significant covariate and only on two paths of the model (see Table 5). It was found that for a given level of relationship anxiety, men were .27 standard deviation units higher than women on self-silencing, whereas women were .43 standard deviation units higher than men on reassurance-seeking. These gender effects were not hypothesized a priori.

Next, PA was used to compare the size of the direct effects with the mediated effects within the model (see Table 6). For one's own relationship satisfaction, it was found that the direct effect of one's own relationship anxiety comprised the largest portion of the total effect (54%). Reassurance-seeking and partner accommodation behaviors only comprised 17% of the total effect on relationship satisfaction, while self-silencing accounted for 29% of the effect. For the *partner's* relationship satisfaction, about a third of the effect was accounted for by each of three paths: (a) the direct effect of one's own relationship anxiety on one's partner's relationship satisfaction (35%), (b) the mediated pathway between one's own relationship anxiety and reassurance-seeking and one's partner's accommodation on one's partner's relationship satisfaction (33%), and (c) the mediated pathway of one's own relationship anxiety and self-silencing on one's partner's relationship satisfaction (32%).

As a follow-up analysis, anxious and depressive symptoms (as reported by both partners on the BAI and CESD) were included as covariates on all paths of the model to determine if either partner's broader psychological health impacted the overall pattern of findings. Anxious symptoms as measured by the BAI did not have a significant effect on any of the paths, so they were dropped from all subsequent analyses. Depressive symptoms did have a significant effect on three paths (reassurance seeking predicting partner accommodation, relationship anxiety predicting self-silencing, and relationship anxiety predicting reassurance seeking), although the overall pattern of findings remained similar to the original model in which depressive symptoms were not included as a covariate (see Table 7). The fit statistics improved somewhat, with one indicator suggesting a well-fitting model (CFI = .97), though the others remained poor (RMSEA = 0.07; TLI = 0.93; $\chi^2(30) = 450.62$, $p < .0001$). In examining specific paths, it appears that more depressive symptoms in either partner tended to be associated with increases in maladaptive behaviors. For example, a one standard deviation unit increase in depressive symptoms was associated with a .30 standard deviation unit increase in reassurance seeking, a .39 standard deviation increase in self-silencing, and a .30 standard deviation increase in accommodation in that same partner. In terms of cross-partner effects, a one standard deviation increase in depressive symptoms in one partner was associated with a .13 standard deviation unit increase in reassurance seeking in the other partner and a .12 standard deviation *decrease* in accommodation in the other partner. This second cross-partner finding was at the trend level ($p = .07$), but was interesting in that one might expect that depressive symptoms in one partner would pull for more accommodation in the other, not less.

The hypotheses for study 1 were largely supported. All paths in our model were significant and in the expected direction, except for the reverse path in our proposed feedback loop between reassurance seeking and partner accommodation. Fit statistics for the overall model were poor, although they improved somewhat with the addition of depressive symptoms as a covariate. There were some unanticipated gender effects, with women more likely than men to report higher levels of reassurance-seeking, and men more likely than women to report higher levels of self-silencing. From both the PA and from examining cross-partner correlations, it appears that behaviors such as reassurance-seeking, self-silencing, and accommodation are negatively associated with both partners' relationship satisfaction. It also appears that depressive symptoms can play a role, as it emerged that when one partner engages in reassurance-seeking or accommodation it is associated with increased depressive symptoms in the other partner in a couple.

Study 2: Hypotheses

Study 2 evaluated a brief couple-based intervention for relationship-based anxiety. Couples attended a 2.5 hour session, during which they received psychoeducational feedback specifically targeted for the relationship issues and maladaptive behavioral patterns seen among couples in which one partner has relationship-based anxiety. It should be noted that the intervention was not a randomized controlled trial; rather, as it was a pilot test of the intervention, we employed an open trial approach in which all couples received the treatment. Leaders in the field of couple treatment-outcome research advocate for a step-wise approach to treatment development, in which treatments are first developed and tested on a small pilot sample of couples before efficacy is established with larger randomized controlled trials (Christensen, D. Baucom, Vu, & Stanton, 2005). In these pilot tests of treatments,

treatment effects are compared to known effect sizes of established couples treatments and also to known wait-list control effects from prior treatment outcome studies (D. Baucom, Hahlweg, & Kuschel, 2003). Therefore, it was hypothesized that we would find treatment effects that surpass those of known couple therapy waiting list control effects for the following constructs. These predictions were somewhat speculative, given that effect sizes from prior studies were based on relationally distressed couples in general, rather than couples with relationship anxiety specifically.

It was hypothesized that individuals with relationship-based anxiety and their partners would report significantly greater relationship satisfaction and lower levels of anxious and depressive symptoms at the post-assessment two weeks after the intervention session.

It was hypothesized that individuals with relationship-based anxiety would report significantly lower levels of relationship-anxiety, reassurance-seeking, and self-silencing, and greater levels of differentiation of self at the post-assessment two weeks after the intervention session.

It was hypothesized that partners of individuals with relationship-based anxiety would report significantly lower levels of accommodation behavior at the post-assessment two weeks after the intervention session.

Study 2: Methods

For the Study 2 couple-based intervention, 21 couples were recruited via UNC campus-wide informational emails. To be eligible to participate in the intervention, both partners had to be 18 or older, speak English, have been in their current romantic relationships for at least 3 months, and have one (and only one) partner identify as experiencing relationship-based anxiety determined by a set of structured questions during a

telephone screening of the couple. Of the 21 couples recruited, 20 were heterosexual and one was a female same-sex couple. The partners who identified as experiencing relationship-anxiety were mostly female (17 female, 4 male), and the non-anxious partners were mostly male (16 male, 5 female). For ease of communication, the partners experiencing relationship-anxiety will be referred to as “patients” and the non-anxious partners will be referred to as “partners.”

Age in the sample ranged from 18 to 53 ($M = 30.38$; $SD = 11.87$). In terms of ethnicity, participants were 71.4% Caucasian, 7.2% African American, 9.5% Asian, 4.8% Hispanic, and 7.1% Multiracial or Other. Most of the couples in our sample had been in their relationship for over one year (14.3% over 5 years, 28.6% 2-5 years, 33.3% 1-2 years, 9.5% 6 months – 1 year, 14.3% 3 – 6 months). As our sample was recruited from a university setting, our participants were mostly college educated or currently working on their college degree (7.1% high school degree, 42.9% some college, 23.8% bachelor’s or associate’s degree, 9.5% some graduate school, 14.3% masters degree, 2.4% doctoral or other professional degree).

All couples who were screened as eligible and interested in the study were sent a link to the online baseline survey and scheduled for an appointment in the UNC Psychology Clinic for the intervention session. Within 2-3 weeks following completion of the baseline survey, couples participated in a 2.5 hour intervention session conducted with each couple separately by the principal investigator, a clinical psychology doctoral student. In the first half of the session, the couple was introduced to the concept of relationship-based anxiety and associated maladaptive behavioral patterns (e.g., excessive reassurance-seeking, self-silencing, and partner accommodation), and provided with tailored feedback based on their

scores on the baseline assessments. Specific examples of the couples' communication patterns were elicited by the therapist, and couples were given a framework for understanding these interactions as driven by their well-intentioned desire to reduce the relationship-based anxiety. They were taught that sometimes these interactions are ultimately only helpful in the short-term (e.g., one partner asking for reassurance and the other providing it) and can create difficulties over time. Through handouts and collaborative explanations using the couple's own examples, the therapist discussed the exposure model of anxiety, and how avoiding situations that cause the anxiety (through self-silencing or through accommodation) can ultimately lead to the anxiety being maintained and sometimes worsened.

In the second half of the session, the couples were provided with an alternative strategy for managing the anxiety as a team, through expressing inner experiences to each other in a structured way. Given time constraints, this intervention was designed to be a brief introduction to potentially helpful communication skills rather than a comprehensive treatment, and this limitation was explained to the couple. Couples were taught a set of guidelines for having a structured conversation for sharing thoughts and feelings (Epstein & D. Baucom, 2003), and they practiced these skills by having an in-session conversation on a topic related to relationship-based anxiety. Having this type of structured conversation was framed as an alternative to self-silencing or reassurance-seeking (for the patient), or accommodation (for the partner). At the end of the session, couples decided upon four topics that they would like to discuss at home related to relationship-based anxiety using the communication skills. These were detailed on homework sheets, and the therapist instructed

patients to make ratings of their level of anxiety on a scale from 0 to 10 both before and after having the conversations.

Overall, this feedback and intervention session was designed to help couples gain a better understanding of their communication patterns and how these patterns can be maintained even though they can be frustrating for both partners. It was not intended to serve as a treatment eliminating these patterns, as that likely would not be feasible to achieve in a single session. Rather, it was intended to help the couple experience some of these interactions from a different perspective and for them to better understand how anxiety operates, and what roles each person plays in the process. The brief communication training was introduced so that couples could use these skills as an alternative strategy when anxiety arises, or as a tool for more effectively discussing interactions they have that lead to frustration or distress. This distinction between a comprehensive treatment versus feedback and a brief introduction to communication skills was made clear to the couples throughout the session, and they were offered therapy referrals for anxiety and/or couples treatment if they were they interested in such information.²

Following the intervention session, the couples were asked to complete at-home conversation exercises twice per week for a period of two weeks, at which point the couples completed a post-assessment online. The post-assessment contained identical measures to the baseline assessment, with the addition of a client satisfaction questionnaire and some qualitative items assessing whether the intervention was helpful and a good fit for them. For compensation, couples received \$80 for participation in the intervention session (\$40/partner), and \$20 Amazon gift cards for each of the two online assessments (\$10/partner

² Only one couple requested further information, though the request was for recommendations of self-help books for dealing with infidelity rather than referral information.

for baseline, and \$10/partner for the post-intervention assessment, \$40 per couple for complete data). All procedures described above for were approved by the UNC Institutional Review Board.

For Study 2, participants completed a baseline online questionnaire with similar measures as described above for Study 1 (see the Study 1 measures section for more detail). However, for Study 2, the patients and partners completed somewhat different batteries, although comprised of the same measures as used in the first study. The patients completed measures of attachment (ECR-S), differentiation of self (DSI-R), reassurance seeking (DORSS and adapted DIRI), and self-silencing (STSS). The partners completed measures of attachment (ECR-S) and accommodation (adapted FAS, adapted DIRI). Both members of the couple completed a demographics questionnaire, and measures of relationship satisfaction (ADAS), relationship closeness (IOS), depressive symptoms (CESD), and anxious symptoms (BAI). Two weeks after the intervention session, patients and partners completed the same measures that they completed at baseline. In addition, at this post-intervention assessment, both partners completed the Client Satisfaction Questionnaire (CSQ-8; Nguyen, Attkisson, & Stegner, 1983), a brief 8-item self-report measure of clients' satisfaction with and perceived effectiveness of services. The CSQ-8 has demonstrated excellent internal consistency ($\alpha = .93$). Patients also entered ratings of their anxiety levels (on a 0 to 10 scale) before and after the at-home conversations they had with their partners, and a brief description of the topic of each conversation and how well they thought it went overall.

For Study 2, a series of preliminary analyses were first conducted, examining descriptive statistics and the distributions of all study variables for both partners. It was not necessary to test for non-independence of the data to analyze the hypotheses for this study, as

we were looking at pre- and post-intervention data separately for the patients and partners. We examined the patients and partners separately, rather than as individuals nested within couples, because most of the study variables were unique to each set of partners (e.g., relationship anxiety and reassurance-seeking for the patients, and accommodation for the partners).

The proposed intervention was not a randomized controlled trial; rather, as it was a pilot study, we employed an open trial approach in which all couples received the treatment. Therefore, as there was no control group, analyses testing the primary hypotheses were within-group *t*-tests comparing pre- and post-intervention values on the study variables for patients and partners to determine whether there were any statistically significant differences before and after the intervention session. These analyses were conducted using SPSS software.

In addition to the within-groups *t*-tests to determine statistical significance, the extent of *clinically* significant and reliable change from pre- to post-intervention were examined using methods described by Jacobson & Truax (1990). These methods serve to assess whether an observed shift seen before and after an intervention is clinically meaningful, as sometimes a shift might be statistically significant, but might not have much real-world importance. One method of calculating whether the shift is clinically significant is to add the mean of the pre-intervention variable of interest with its mean in a normative population, and take the average of these two means (i.e., the grand mean) to use as a cut-off score for clinical significance. If the participant moves from one side of this cut-off score to the other side of it (in the direction of improvement, towards the mean of the normative sample), then the change is considered clinically significant. There is also a confidence interval called the

reliable change index (RCI), which provides a range of uncertainty due to unreliability of measurement. If a participant's change in score is greater than the RCI and it passes the cut-off score for clinical significance, the change is considered clinically significant and reliable. If the change is greater than the RCI but falls short of the cut-off score, the change is considered reliable but not clinically significant. If the change falls within the RCI there is no reliable change. Finally, if there is a change that exceeds the RCI but it is in a maladaptive direction (e.g., a higher score for depressive symptoms post-intervention), the participant is considered to have experienced reliable deterioration. Employing this strategy, the percentage of participants that fell within each of these categories on our primary study variables was calculated.

Finally, we computed within-group effect sizes as recommended by D. Baucom et al. (2003). These effect sizes were calculated by subtracting the mean of the variable of interest at the pre-intervention assessment from the mean on the same variable following the intervention, and then dividing by their pooled standard deviation. Because we had no control group with which to compare these effect sizes, they were compared to known wait-list control effect sizes from a meta-analysis of prior couple-based treatment outcome studies (D. Baucom et al., 2003). These effect sizes were also compared to the effect sizes in active treatment condition comparison groups, (a) the "marriage check-up study," a brief couple intervention (Cordova et. al, 2005), and (b) a couple-based intervention for OCD (Abramowitz et al, 2013). Although these comparison treatments were not focused on relationship-based anxiety, these were considered to be the most reasonable comparison groups for examining the relative magnitudes of effect sizes due to similarities in design and measures.

Study 2: Results

Means and standard deviations for all study variables measured at baseline and paired-*t* test results comparing patients and partners on all common variables are presented in Table 8. Paired-*t* test results indicated that patients and partners differed on two common variables, anxious attachment and depressive symptoms. As expected, patients scored higher than partners on both anxious attachment and depressive symptoms. Patients and partners did not significantly differ on their scores of anxious symptoms (as measured on the BAI), relationship satisfaction, or avoidant attachment. As expected, the means on variables such as attachment anxiety, reassurance-seeking, self-silencing, and accommodation were higher for participants in Study 2 than in Study 1, as they had specifically identified themselves as struggling with relationship anxiety. The study variables were mostly normally distributed for both patients and partners, although anxious attachment was slightly negatively skewed for patients (as expected, given they were recruited for these symptoms), and depressive and anxious symptoms as measured on the CESD and BAI were slightly positively skewed.

In terms of relationship satisfaction, baseline scores ranged from 15 to 29 (from a possible 0 to 36 on the ADAS). The patients' mean was 24.3 ($SD = 3.23$), and the partners' mean was 23.0 ($SD = 3.03$). In the original validation study for the ADAS, married individuals scored an average of 23.2, compared with divorced individuals' average score of 15.2. In our sample, only one participant (a partner) scored 15 or below on the ADAS. In the realm of depressive and anxious symptoms, distributions of the CESD and BAI were somewhat positively skewed for partners, and fairly normally distributed for patients. For depressive symptoms, participants' scores ranged from 3 to 39 (from a possible 0 to 60 on the CESD). The patients' mean was 22.42 ($SD = 11.46$), and the partners' mean was 13.11

($SD = 8.29$). Researchers have used a clinical cut-off of 16 for the CESD—in our sample, 18 participants (43% of the sample, 13 patients and 5 partners) scored 16 or higher on the CESD. For anxious symptoms, scores ranged from 0 to 36 (from a possible 0 to 63 on the BAI). The patients' mean was 12.60 ($SD = 9.35$), and the partners' mean was 8.50 ($SD = 10.42$). Researchers have also used a clinical cut-off of 16 for the BAI—in our sample, 10 participants (24% of the sample, 7 patients and 3 partners) scored 16 or higher on the BAI.

The primary hypotheses of Study 2 were tested by comparing baseline scores on key study variables with scores on the same variables two weeks post-intervention (see Tables 9 and 10). The first hypothesis (2a) was that both patients and partners would report greater relationship satisfaction and lower depressive and anxious symptoms post-intervention. A series of paired *t*-tests were conducted to test this hypothesis, and it was partially supported. Patients did report significantly greater relationship satisfaction and significantly lower depressive symptoms post-intervention, and a trend towards lower anxious symptoms (see Table 9). However, partners did not show these effects (see Table 10).

The second hypothesis (2b) was that patients would report lower relationship-anxiety, reassurance-seeking, and self-silencing, and greater levels of differentiation of self at the post-intervention assessment. This hypothesis was fully supported (see Table 9).

Finally, the third hypothesis (2c) was that partners would report lower levels of accommodation post-intervention. This hypothesis also was supported (see Table 10). Furthermore, partners (similar to patients) were found to have significantly lower anxious attachment at post-intervention compared to baseline. This result was not hypothesized, but we measured attachment style in both patients and partners, so we were able to assess this

change. Neither patients nor partners showed a significant change on scores of avoidant attachment following the intervention.

To investigate whether the statistically significant changes from baseline to the post-intervention assessment were clinically significant, a series of analyses were conducted using methods described by Jacobson & Truax (1991). While it is ideal for these analyses to use reliability scores from non-patient normative data on all measured variables, this information was not available for some of the variables used in the current study. Therefore, in order to use consistent methods across variables, for a normative benchmark we used data from the non-patient Study 1 sample (N = 97 couples). As the measures were identical across Study 1 and Study 2, this provided a point of comparison for each variable of interest.

In order to calculate clinically significant change, it is also important to assess whether the change found can be considered *reliable change* (rather than a chance fluctuation due to the less than perfect reliability of the measures used) by calculating a Reliable Change Index (RCI) for each variable of interest. In order to calculate RCIs, a reliability score was obtained for each variable by squaring the alpha coefficient for the men and for the women from Study 1, and then taking the square root of their average. These reliability scores were then used to obtain the standard error of the difference (S_{diff}) for each variable of interest. Then, the difference between the baseline and post-intervention score was divided by the S_{diff} for each variable, which yielded the RCI for that variable. If the change between baseline and post-intervention exceeded the value of the RCI, the change was considered reliable. If it did not, no reliable change was considered to have occurred.

Next, calculations were conducted to determine the cut-off point under or over which clinically significant change could be considered to have occurred. This cut-off point was

determined by taking the average of the normative mean (from the Study 1 sample) and the baseline mean of the Study 2 clinical sample. If at the post-intervention assessment point the patient or partner either exceeded this cut-off point (for variables like relationship satisfaction) or fell below it (for variables like depressive symptoms), they were considered to have entered a range of “high endstate functioning” if the change they experienced was also reliable (determined by exceeding the RCI for that variable). If the individual experienced an improvement that exceeded the RCI but did not result in a post-intervention score past the cut-off score for clinically significant change, they were categorized as having experienced “reliable improvement.” If the change score for the individual did not exceed the RCI, they were categorized as having experienced “no reliable change.” Finally, if the change was reliable and in a detrimental direction (e.g., lower for relationship satisfaction, higher for depressive symptoms), they were categorized as having experienced “reliable deterioration.”

These categorizations were made for both patients and partners on all variables that exhibited statistically significant change from baseline to post-intervention (see Table 11 for patients, Table 12 for partners). A majority of patients were categorized as experiencing high endstate functioning on anxious attachment, differentiation of self, self-silencing, and reassurance-seeking. For patients’ relationship satisfaction and depressive symptoms, a majority were categorized as experiencing *either* high endstate functioning *or* reliable improvement. A majority of partners were categorized as experiencing high endstate functioning on anxious attachment and accommodation. Reliable deterioration was experienced by two patients on differentiation of self, by one patient on self-silencing, and by four patients on relationship satisfaction and depressive symptoms. Reliable deterioration

was experienced by two partners on anxious attachment, and four partners on accommodation behavior. To determine whether deterioration was “clustered” in a particular set of cases (e.g., whether any couples were reliably deteriorating across several variables), individual case IDs were tracked. Two couples experienced deterioration on more than one indicator, and all others only experienced deterioration on a single variable. One of these two couples experienced deterioration on patient depressive symptoms and partner accommodation, and the other experienced deterioration on patient self-silencing, patient differentiation of self, and partner accommodation. In both of these couples, the patient and partner were in their early 20s, White, and seniors in college nearing graduation. Both couples were heterosexual; in one the patient was male, and in the other the patient was female.

In Study 2 all couples were enrolled in the intervention, and there was no control group. Therefore, in order to determine whether the observed changes are likely to be greater than changes seen in a typical waiting-list control group and whether they are comparable to changes seen in similar interventions, we conducted a series of effect size comparisons as recommended by D. Baucom et al. (2003). For each variable in which a statistically significant change was found from baseline to post-intervention, the within-group effect size was calculated by dividing the difference score from baseline to post-intervention by the pooled standard deviation. The resulting effect sizes ranged in absolute value from $d = 0.43$ to $d = 2.24$ (see Table 13). The effect sizes from the current sample were then compared to the within-group effect sizes calculated for several variables from three different comparison studies. This was largely a descriptive exercise, as the comparison samples were not precise replicas of the current study. The primary variable for which effect sizes were able to be

compared was relationship satisfaction, but one of the studies also allowed for a comparison of effect sizes on depressive symptoms and partner accommodation.

The first comparison study was the Marriage Check-Up (MC; Cordova et al., 2003), chosen for its similarity to the current intervention in treatment duration and design. In the MC, couples were provided with an assessment of their current relationship functioning and provided with feedback over two sessions, each lasting approximately two hours. However, the focus was on relationship functioning in general and did not address the specific topic of relationship anxiety. Couples completed a questionnaire packet prior to their first assessment session and completed the post-intervention packet two weeks later, immediately after their feedback session. The within-group effect size for patient relationship satisfaction in the current sample ($d = -0.43$) surpassed that of the within-group effect size for the MC couples ($d = -0.29$).

The second comparison study was a meta-analysis of 17 within-group effect sizes for behavioral couples therapy (BCT) and wait-list control groups (WC) (D. Baucom et al., 2003). The studies contained in the meta-analysis involved full courses of BCT rather than a brief treatment protocol such as the current study, so the designs were quite different. However, the goal was to compare the effect size on relationship satisfaction found for the current study with the effect size for a typical wait-list control group in a couple therapy study, as well as to see how results from the current study compare to the effect size for a full course of BCT. The within-group effect size for patient relationship satisfaction in the current sample ($d = -0.43$) surpassed that of the within-group effect size on relationship satisfaction for the waiting-list control groups in the meta-analysis ($d = 0.06$). The effect size for the current sample was approximately half of the effect size found for BCT ($d = -0.82$).

However, the couples included in the BCT meta-analysis of 17 studies were in the distressed range at pre-test on indices of relationship satisfaction, whereas most of the couples in our sample started out in the average range of relationship satisfaction. Therefore, although the effect size for BCT was much larger, there was less room for improvement in the couples in our sample given that most were already in the range of average relationship satisfaction.

Finally, the third comparison group was a study treating couples in which one partner had been diagnosed with obsessive compulsive disorder (OCD) (Abramowitz et al., 2013). This treatment outcome study had a similar sample size (16 couples completed treatment) and assessed partner accommodation and patient depressive symptoms in addition to relationship satisfaction, providing more points of comparison for within-group effect sizes. However, it was not a brief treatment model; couples participated in 16 sessions of 90 – 120 minutes each to treat the patient's OCD symptoms and the couple's relationship functioning. The effect size for patient relationship satisfaction in the current sample ($d = -0.43$) was similar to that of the effect size for patient relationship satisfaction in the OCD couples study ($d = -0.39$). Furthermore, this was perhaps a better comparison study for relationship satisfaction than the BCT meta-analysis described above, as in the OCD couples study patients were starting at an average level of relationship satisfaction, similarly to the participants in the current study. The effect size for partner accommodation was also similar (current sample, $d = 0.78$; OCD couples study, $d = 0.73$). The effect size for depressive symptoms in the OCD couples study ($d = 1.29$) was more than twice the effect size for depressive symptoms in the current sample ($d = 0.51$). The patients in our sample were more depressed on average at baseline than the patients in the OCD couples study, as the average baseline depression score for patients in the current study fell above the clinical cut-off for

depression on the CESD, whereas the average baseline depression score for patients in the OCD couples study on the Hamilton Depression Rating Scale fell in the non-depressed range.

As part of the intervention, couples selected four topics for at-home conversations to have after their session and before their follow-up assessment two weeks later. The topics were chosen collaboratively at the end of the intervention session and tended to be issues that were central to the couple's struggle with relationship anxiety. Examples of chosen topics include: "Online checking," "Telephone communication," "Ex-girlfriend jealousy," "Physical affection in the presence of others," and "Work stress and how it affects our relationship."

During the follow-up assessment two weeks after the intervention session, both the patient and partner reported on the number of these conversations they actually had, as well as how satisfied they were with them. Patients reported having an average of 3.48 conversations ($SD = 1.12$), and partners reported having an average of 3.24 conversations ($SD = .94$). In terms of how well they thought the conversations went overall, patients reported an average of 3.57 ($SD = .93$) and partners reported an average of 3.33 ($SD = 1.02$) on a scale from 1 (poorly) to 5 (excellent). Patients (but not partners) also reported on their anxiety / distress level both prior to and immediately after these at-home conversations on a scale of 0 (calm) to 10 (anxious / distressed). Patients reported an average decrease in anxiety / distress of 2.46 points ($SD = 2.46$) on this scale from before to after having their at-home conversations. The difference scores ranged from an average decrease of 6.25 points on the scale, to an average increase in anxiety / distress of 1.75 points on this scale across the four conversations.

During the follow-up assessment, both patients and partners completed the Client Satisfaction Questionnaire (CSQ), rating how satisfied they were with the intervention and whether it had met their expectations. All items were rated on a scale from 1 to 4, with higher ratings indicating greater satisfaction. The overall CSQ average was 3.61 ($SD = .44$) for patients and 3.41 ($SD = .41$) for partners. At the end of the CSQ, there also was an opportunity for patients and partners to share comments about their experience in the study, what they liked and what they felt could be improved. Many of these comments expressed appreciation—for example:

“We honestly were not expecting much out of this study but it helped SO much. Christine really helped us understand what was going on between us more than we had before and her suggestions helped a great deal. When [my partner] would try to reassure me through rationalization when I was distressed, which wouldn't help calm my nerves at all we didn't realize that that was a problem but there were times during our discussions where he would try to rationalize and we would both realize that that is what he was doing and we instead used the suggestions that Christine gave us which helped us a lot. Thank you so much!”

“I really enjoyed the benefits from doing this session. [My partner] and I have both felt like we learned something and I have noticed I have been happier in the relationship, and not so worried over [my partner]'s moods. It's not perfect yet, but my anxiety has decreased some and I have a better idea about why I felt it in the first place.”

“I loved the model of talking, learning a skill and then practicing it with the therapist. I wish all therapy was like this.”

“I did not know what the experience would be like and so I had low expectations. But after the session I felt more capable of communicating with my partner. Not just in what I wanted to say and how to say it, but also that she would be open to hearing my thoughts and about my feelings.”

There were also comments that offered suggestions for improvement—some of these comments referenced a desire for an intervention of longer duration, more opportunities to practice skills with a therapist, or more intervention in certain content areas:

“Need more practice sessions communicating with a facilitator there.”

“I learned a lot from the program but sometimes things are hard to express. I would like to see a further follow up to the program.”

“Texting communication issues should be added to the intervention.”

Some of the comments also described couples’ difficulty putting the skills into practice at home, and experiencing increased distress around approaching certain topics that the couple had tended to avoid in the past:

“After conversations I would feel better in the way that I felt closer to my partner, but a little more nervous because I had just stirred up some feelings about the conversation topic. Even though the net feeling was probably positive, I recorded some of them as staying the same, because the scale was asking about anxiousness/distress.”

“Three of the four times, even though the process of practicing was awkward and difficult, the end result was positive. One of the four times...I felt very much worse after the discussion because it made me realize some negative aspects of our relationship that I hadn’t even considered before getting into the conversation.”

“Bringing up the topics was a source of anxiety—she told me she had higher anxiety after we spoke about graduation, a conversation where she started to cry. I saw it as productive but she didn’t like bringing it up because she would rather avoid addressing the issue altogether.”

For the most part, comments fell into the above thematic categories: expressing appreciation, desire for further facilitation, or description of difficulty related to at-home conversations for challenging topics. Other commenters expressed a desire for one’s partner to improve on a particular skill, or made suggestions related to the questionnaires included in the online assessment.

The hypotheses for study 2 were largely supported, and the intervention was well-received by the majority of patients and partners. As hypothesized, patients reported *higher* relationship satisfaction and differentiation of self and *lower* levels of relationship anxiety,

depressive symptoms, reassurance-seeking, and self-silencing at the follow-up assessment two weeks after the intervention. However, partners did not report an increase in relationship satisfaction nor did they report a decrease in depressive or anxious symptoms following the intervention. However, partners did report a significant decrease in accommodation behaviors, as hypothesized. These results were also tested for clinical significance and contrasted with results of several comparison samples. The within-group effect sizes from the current study compared favorably to these comparison studies, as our results for increasing relationship satisfaction and reducing accommodation behavior were similar to a 16-session couple based treatment for Obsessive Compulsive Disorder and surpassed the typical effect size seen for relationship satisfaction in wait-list control groups for couples waiting for behavioral couple therapy. Finally, couples in our study largely seemed satisfied with the intervention, although some suggested that a greater number of sessions could be helpful.

Discussion

Certain individuals are easily and persistently threatened by the thought that their partner might be losing interest in them or is considering terminating their relationship. Unfortunately, the behaviors that the anxious partner engages in as an attempt to mitigate this perception of threat might inadvertently contribute to increased distress in the relationship. This anxious style can arise for a variety of reasons. Some individuals may have experienced interpersonal abandonment at various points in their life; others may have been with a previous partner who was unfaithful or are with a current partner who was unfaithful in the past. Other individuals may experience this type of threat-focus more broadly in their interpersonal lives with no clear, direct association with earlier experiences of rejection or abandonment by close others. The primary aims of the two current studies were (a) to better

understand this type of relationship-focused anxiety in terms of some of the central behaviors that each partner might engage in when this anxiety is present, and (b) to determine whether providing psychoeducation and targeted communication skills training would decrease any of these common maladaptive patterns.

Several patterns of results emerged in the results of the first study. There was a broad pattern of one partner attempting to *appease* the other when this relationship-based anxiety was present at higher levels. These behavioral strategies (e.g., self-silencing, partner accommodation) might have been enacted in an attempt to “keep the peace” in the relationship, yet a higher frequency of these behaviors was associated with decreased relationship satisfaction for both partners and increased depressive symptoms for the individual engaging in the appeasement. There was also an unexpected gender effect in the results for study one, indicating that men engage in these types of appeasing strategies more than women (both self-silencing and accommodating behaviors), even when accounting for the fact that women generally have greater levels of relationship-based anxiety than men. Women, on the other hand, engaged in more reassurance-seeking behaviors than men. We will consider why this might be the case in a more detailed discussion of the results of study one below. The central aim of the second study was to determine whether a very brief, single session feedback-oriented intervention would be associated with a decrease in any of these maladaptive behavioral patterns for couples in which one partner is struggling with persistent anxiety about the relationship. Whereas the results were largely encouraging, we will discuss for whom this brief targeted intervention model seemed most successful, and the ways in which it could be improved upon in the future. Below we discuss the results of the two

studies in turn, before discussing the themes that cut across both studies in an integrated manner.

The hypotheses for the first study were largely supported. As predicted, relationship anxiety was associated with greater levels of self-silencing and reassurance seeking. In turn, reassurance seeking was associated with higher levels of partner accommodation and lower levels of one's own and one's partner's relationship satisfaction. Self-silencing also was associated with lower levels of one's own and one's partner's relationship satisfaction. The one hypothesized path that was not supported by the data was the reverse feedback loop proposed to exist between partner accommodation and reassurance-seeking. It was expected that these behaviors (one partner's reassurance-seeking and the other's accommodation behaviors) would be mutually reinforcing and cyclical in nature. This is not what emerged, as only the path from reassurance-seeking to partner accommodation was significant. Perhaps reassurance-seeking is more visible and noticeable as a behavior to both partners, and is therefore more strongly associated with a typical partner response (accommodation), whereas accommodation might sometimes go unnoticed by an anxious partner, and therefore would be less strongly associated with any one response. For example, in order to accommodate to a partner's anxiety, an individual might avoid bringing up a conflict, and the anxious partner might never know this avoidance has occurred, so heightened reassurance-seeking might not be an immediate or direct response to such accommodating behaviors. However, over time, an accumulation of repeated accommodation behaviors might lead to resentment and to an increase in tension, which could create an environment that encourages more reassurance-seeking at a later point. As we only had a single time-point of data in the first study, we were

not able to capture how this cyclical pattern might develop or establish cause-effect relationships.

Although all paths in our model for study one were significant (except for the reverse path in our proposed feedback loop), the overall fit for the model was poor. In essence, this means that while some strong associations were identified, there are likely many external factors that influence the broader non-specific variables (e.g., overall relationship satisfaction) that are not included in the model. When depressive symptoms were included as a covariate, the overall model fit improved somewhat, but still not to levels across indicators that would suggest good or excellent overall fit. While not as effective at capturing the influences on the broader construct of relationship satisfaction, the model *was* very successful in accounting for the associations between the more proximal variables – for example, relationship anxiety was a strong predictor of reassurance-seeking. This theme of stronger associations among the more behaviorally specific and proximal variables also existed in the results of our intervention study, as more change emerged on the specific behavioral behaviors post-intervention compared to broader constructs such as relationship satisfaction and depressive symptoms. What this overall pattern of findings seems to suggest is that the aspects of the relationship that are more focal to relationship anxiety are somewhat closely associated with each other and amenable to short term interventions. However, these relationship- specific variables do not explain a great deal of the couple's overall relationship satisfaction, which likely results from a large number of factors.

Gender differences were not hypothesized for either of the studies, but an unexpected finding emerged in the first study. While the strength of the association between relationship anxiety and self-silencing was similar across genders, men were found to engage in higher

levels of self-silencing than women—at a given level of relationship anxiety, men were .27 standard deviation units higher than women on self-silencing. This finding was not predicted because previous research on this construct typically has demonstrated equal levels of self-silencing across genders or higher levels in women relative to men. In the current study, men were also more likely to engage in accommodating behaviors than women, whereas women were more likely to engage in reassurance-seeking than men. These findings may be suggestive of a set of distinct roles within the context of heterosexual relationships when anxiety is present, with women engaging in more approach and engagement strategies, while men tend to avoid engaging with their partners about anxiety and rather attempt to be protective or mitigate negative emotions through staying silent or offering reassurance. Future research might investigate this gender difference further through inclusion of masculinity and femininity indices, as research has demonstrated that these factors can be associated with emotional expressiveness and avoidance (e.g., Levant et al., 2003).

As anticipated, whether it was a male or female engaging in them, all the behaviors assessed within the proposed sequence resulting from relationship anxiety – reassurance-seeking, partner accommodation, and self-silencing—were associated with *decreased* relationship satisfaction in both partners. Why would people continue to engage in such maladaptive behaviors when they are associated with something they are trying to avoid—relationship dissatisfaction? One possibility is that these strategies have some short-term benefits, although they are more broadly maladaptive in the long-term. For example, asking for and receiving reassurance from a partner is likely comforting in the moment, if the partner provides it in a way that feels good. However, as that request is repeated, the partner is likely to lose patience over time, and the reassurance-seeker may ultimately feel worse,

and perhaps feel guilty or ashamed for needing the reassurance in addition to feeling the underlying anxiety that prompted it in the first place. Similarly, self-silencing in an anxious partner may provide some short-term benefits, in that it can serve to circumvent certain conflicts when one partner keeps quiet about a dissenting opinions he or she may have, but in the long-term this behavior can be frustrating and isolating for both partners and concerns are not addressed.

A non-anxious partner *providing* reassurance or accommodating to an anxious partner can also be conceptualized as a short-term solution to a chronic problem. It might prevent or alleviate distress in the moment by providing reassurance to an anxious partner. However, as such interactions recur, over time anxious partners might begin to resent feeling “handled” or patronized in this way, or might even become more anxious if they believe accommodating partners are hiding information from them. The partner providing the reassurance also likely begins to feel resentful over time as a result of providing repetitive reassurance, and he or she may start to lose patience with the anxious partner. Future work could examine the development of this process over time in both partners, perhaps using ecological momentary assessment or daily diary techniques, to determine the shifting emotions that occur as these behaviors are repeated.

As our study was not designed in a manner that allowed interpretation of the cause-effect nature of the phenomena, it is also important to consider reverse order explanations for the pattern of results. For example, perhaps it is relationship dissatisfaction that is driving this behavioral cycle – as individuals feel more distressed within their relationships (for any number of reasons), they are then subsequently more likely to engage in self-silencing or reassurance-seeking, which then contributes to a greater sense of anxiety about the

relationship. These patterns are likely bi-directional –as a relationship deteriorates and becomes more distressed, this tense environment would be more conducive to the sorts of behaviors we have measured and discussed in this investigation. While in the second intervention-based study, discussed next, we were able to capture some differences over time (pre and post-intervention), this still does not provide enough temporal resolution to track these more nuanced questions of causality. It would be worthwhile in the future to conduct research that tracks couples struggling with relationship anxiety over time, to get a sense of the sequence of events, and to examine effects within as well as between couples.

In the second study, the primary aim was to determine whether a brief, one-session intervention session with both members of a couple could assist in shifting some of the maladaptive behavioral patterns common among couples struggling with relationship-based anxiety. The intervention combined a discussion of exposure-based principles with basic communication skills training targeted to the couple's specific areas of concern and recurring problematic patterns. The intervention did have an effect, at least in the short-term. Two weeks after the intervention, there were significant reductions in relationships anxiety, self-silencing, reassurance-seeking, and depressive symptoms for the patients, and reductions in accommodation behaviors in their partners. Patients, but not partners also had an improvement in overall relationships satisfaction. The large size of some of these effects was surprising given the brevity of the intervention. However, there were some couples for whom the intervention was not as successful as for others. Below we discuss the benefits and limitations of brief treatment models more broadly, and then specifically discuss how they might apply for individuals and couples with relationship-based anxiety. Given our findings, we will discuss which types of patients or couples might benefit the most from this brief

format of treatment, and which types might be better suited to a format of longer duration given their presenting issues.

In recent years, there has been a push throughout the health system towards implementing empirically supported interventions that are also efficient and cost-effective. Within mental health, this often translates into briefer treatment models, as well as the integration of psychological and behavioral health services into more general primary care settings. Often these types of treatments are targeted and quite focal to a specific area of concern for the patient, rather than an attempt to influence quality of life at a broader level. If not designed well, such very brief interventions might not be very effective or could feel invalidating to a patient seeking a broader type of change or longer duration of care. However, many patients that could benefit from psychological intervention might prefer a briefer format for treatment, as longer-term therapy might not be feasible for them from a time-spent and financial perspective. If such brief treatments are highly individualized to the patient in a targeted manner, rather than a “one-size-fits-all” inflexible approach, it is possible that patients could derive a great deal of benefit from even one or two intervention sessions.

Perhaps surprising, empirical findings demonstrate that the most common length for psychotherapy is in fact a single session and that such single sessions can actually be quite helpful for some patients, rather than perceiving such situations only as therapy drop-outs or “failures” (Talmon, 2012). Furthermore, a recent review of the research on single-session treatments has found that their beneficial effects can be strong and long-lasting, even when the brief nature of the therapy was unplanned (Campbell, 2012). One of the aims of the present study was to evaluate whether a single-session feedback-based couples intervention

that was designed to address a group of specific behavioral patterns related to the focal issue of relationship-based anxiety could yield any behavioral change despite its brief duration. While our effects were striking at two weeks post-intervention, it is unclear whether they will be maintained long-term—it will be important in future research to include follow-up periods of longer duration to evaluate the longevity of the effects.

The efficacy of brief treatment formats has been researched for specific disorders in the anxiety field. A single-session treatment for specific phobias (Ost, 1989) has been extensively evaluated and compared to treatments of longer duration. This one-session-treatment, or OST, for specific phobias has been described as meeting “probably efficacious” status under the guidelines of Chambless et al. (1996) for the empirical status of an intervention. It makes sense that specific phobias might respond to a targeted approach given their circumscribed nature – however, it is still impressive that in three hours, this OST can reduce symptoms by 85 – 90% on average, and that these rates are maintained at one-year follow-up assessments (see Zlomke & Davis, 2008 for review). Part of the success of the treatment might be its focus on long-term maintenance, and therapists’ suggestions for how the patient can maintain gains and stop avoidance behaviors at home – for example, by providing a jar of spiders to take home for continued exposure exercises, or recommendations to visit feared locations on a regular basis. Briefer targeted treatment for other anxiety disorders have also been developed (e.g., a two-day treatment for panic disorder, Deacon & Abramowitz, 2006; a five-day treatment for OCD, Whiteside, Brown, & Abramowitz, 2008), and have been found to be a preferred format for patients living in rural areas who would need to commute long distances to receive treatment. It will be important to continue to consider empirically whether such briefer treatment formats are ultimately more

cost-effective and feasible for patients, in addition to testing their effectiveness over time at reducing symptoms.

In the field of couple therapy research, there has also been research into brief treatment models—more specifically using briefer formats to isolate mechanisms of change, as well as addressing the question of which couples would benefit the most from such a format. There has been a call for researchers to more closely examine the mechanisms of change or “active ingredients” in their successful intervention packages – within couples therapy, that would require dismantling studies that demonstrate the effectiveness of distinct modules within the broader treatment packages of therapies such as Cognitive Behavioral Couples Therapy (CBCT), Integrative Behavioral Couples Therapy (IBCT), and Emotionally Focused Couples Therapy (EFT). Christensen et al., (2005) specifically advocated for this approach, to examine modules of treatment as well as treatment trajectory – when during treatment is the most change accomplished? And how many sessions are necessary to achieve a satisfactory outcome? There have been some impressive intervention studies demonstrating that even two sessions can lead to increases in relationship satisfaction that are maintained two years post-intervention (e.g., the Marriage Check-up, Cordova et al., 2005). Other intervention researchers have posed the question of treatment match – are there some couples who would most benefit from such a brief treatment approach, and others for whom such a model would be contraindicated? Halford (2001) developed a brief therapy for couples that is recommended only after an assessment to determine whether it might be a good fit – factors considered in this decision would be the couple’s level of motivation, positive regard for each other and the relationship, and level of psychological mindedness and capacity for empathic perspective-taking.

In the present intervention study, there was no screening process to determine specifically whether a couple might be a good fit for a brief intervention format; rather screening was oriented towards selecting couples in which one partner (and not both) exhibited symptoms of relationship-focused anxiety that felt excessive and/or distressing. The sample was drawn from a university population—although both students and staff were included, this sample is likely not as distressed or severe on a number of factors (e.g., anxious and depressive symptoms, relationship distress) as we might find if we had recruited from a broader population. Overall, the effects we found were most impressive for the more proximal behaviorally-specific variables such as reassurance-seeking, self-silencing, and partner accommodation behaviors rather than broader outcomes such as relationship satisfaction and depressive symptoms. This result is understandable given that the intervention was designed to target these particular maladaptive behavioral patterns in a manner individualized to each couple, and less time was spent on discussing relationship satisfaction or general well-being in a broader sense. Given the intervention was only a single session, the time had to be spent in a targeted manner in an attempt to maximize the effectiveness of the intervention for relationship-based anxiety specifically. While the effect for these behavioral variables was impressive (e.g., 90% of patients either experienced reliable improvement or high endstate functioning on reassurance-seeking), the results for relationship satisfaction and depressive symptoms seemed to be more variable, with some couples improving quite a bit, and others deteriorating. It is therefore important to consider the question of treatment-fit for the couples in our sample, and more broadly for couples dealing with relationship anxiety.

Based on interacting with the couples and examining their scores on various measures, couples fell into two informal groups or types that could be characterized as (a) the patient recognized that the anxiety he/she was experiencing was excessive given the generally non-distressed and stable nature of the relationship—often this type of patient had a more generally anxious “style” or nature in other areas of his/her life as well; or (b) the anxiety the patient was experiencing was more or less *reasonable* based on situational factors the couple faced (e.g., past infidelity, current flirting occurring with opposite-sex friends, an upcoming move or transition or graduation that threatened the relationship). The intervention was designed with couples from the *first* category in mind, and although the sample was too small to conduct formal subgroup analyses, an informal review of cases did indicate that the intervention was likely most successful with this type of case, rather than couples who were facing objective and external threats to their relationships. For example, the only two couples who experienced deterioration on multiple variables (rather than on just one) were both college student couples in their final semester, dealing with the upcoming transition of graduation and the possibility of new jobs or moves that threatened to end their relationships. Had the sample been restricted to couples in which the anxiety was clearly unrelated to any external, objective, developmental stressor such as this, perhaps it would have been more effective for an even larger percentage of participants. Alternatively, the intervention could be modified or expanded in the future to address the specific needs of couples facing such external threats or developmental milestones, as it could be that the core components of the current intervention are valuable for these couples, but that they would require more sessions or additional material that specifically addresses how to communicate about external threats to the relationship that quite reasonably evoke anxiety for one or both partners.

It is also important to note that whether or not relationship anxiety is characterized as appropriate or inappropriate likely has important associations with the developmental context of the relationship in question. Many of the couples participating in the intervention were young and at a stage of life in which relationships tend to have more ups and downs and transitions than at later developmental periods. This developmentally normative state of flux may be a particularly vulnerable time for individuals who have a tendency to experience anxiety in their relationships, and perhaps also a time during which many individuals experience periods of relationship-based anxiety even if they are not prone to such a style more broadly in their lives. Relationship anxiety can therefore be considered along two dimensions: (a) whether or not the anxiety is excessive / inappropriate given the environmental and developmental context, *and* (b) whether or not the individual is responding to the anxiety in a behaviorally appropriate and adaptive way (regardless of whether or not the underlying anxiety is appropriate or inappropriate to the context). In some situations, relationship anxiety is an adaptive and appropriate signal to the individual that perhaps the relationship is indeed in trouble, or that there is a major environmental challenge to be faced (e.g., an upcoming major transition or developmental milestone that creates uncertainty for the future of the relationship). However, even for individuals experiencing this more “appropriate-to-context” type of anxiety, the current intervention may have provided some useful skills for individuals who were still struggling with how to respond to and manage this anxiety behaviorally.

Qualitative data collected from the couples about their reactions to the treatment largely demonstrated satisfaction with the session and appreciation for the active, skills-oriented nature of the intervention. The primary suggestion for improvement was that it could

be helpful to have more sessions or more opportunities to practice the communication skills with the therapist. Ideally, then, similar to Halford's (2001) brief therapy model in which couples are first assessed for whether they would be a good fit for such a short treatment format, the current intervention might be best administered after a more lengthy screening process to determine feasibility and fit. Couples who seemed subjectively to benefit the most were those with a high degree of warmth and support towards one another, and a feeling on the part of the patient that his/her anxiety was excessive in nature and contributing towards tension in the relationship. In short, couples who seem to be able to work well together as a team more generally might respond best to this type of single-session feedback-based intervention to address a very specific issue. Couples with a high level of negative affect, a history of infidelity, or those facing significant external threats to their relationship would likely not respond as well to this limited intervention, or even experience increased distress as a result of opening up difficult topics without the continued structure and support of an ongoing therapeutic relationship.

Beyond modifying the treatment or engaging in screening to assess treatment-patient match, it is important to discuss the broader limitations across the two current studies which could be addressed or improved in future research. Both studies drew from a university population, including both students and university employees. Such a sample is likely not representative of a broader community sample, so in the future it would be worthwhile to attempt to replicate the findings in a non-university setting. Although study one included a sample size of 97 couples, which was adequate for testing the proposed path model, a larger sample size would have improved our ability to detect effects and to compare our model with more complex models (e.g., with a model that included a direct path from relationship

anxiety to each partner's relationship satisfaction in addition to the behaviorally mediated paths). For study two, a major limitation was the lack of a control group – this was not feasible given the resources available, but in the future it would be valuable to compare the intervention to either a wait-list comparison group or perhaps compare it with another more general intervention (rather than the active, targeted one for relationship-based anxiety). However, as D. Baucom et al. (2003) suggest, during the initial evaluation of a new treatment, an open trial format often is optimal so that all resources can be focused on the new intervention. In evaluating an intervention using an open-trial format, it is also important to consider whether there are any non-specific factors that may have contributed to the results. For example, it could be that rather than the specific behavioral strategies described to patients in the intervention which led to post-intervention changes, it was simply the fact that couples were able to speak about their problems and open up more generally that led to these changes. The same therapist (the author) also conducted all intervention sessions, so there could be some therapist effects at play, and it would be valuable to evaluate whether other therapists could be trained to administer the intervention and yield similar results.

Another major limitation for the intervention study was the lack of a second post-intervention assessment point, perhaps several months post-intervention to test for the stability of the effects. It would also be interesting to design a study in which the intervention was delivered over several spread-out sessions rather than massed into a single-session to compare the relative effectiveness of these formats. As some of the couples stated that they would have liked to have more time to practice the skills, perhaps a treatment that was spread out over a greater number of sessions could have yielded stronger effects. We did not have the resources available in the current intervention study to make these comparisons, but this

could be an interesting future direction, especially given one of the goals was to test the efficacy of a very brief treatment format.

The current studies were designed with the ultimate goal of better understanding and providing practical and effective intervention to couples experiencing distress and maladaptive behavioral patterns associated with relationship-focused anxiety. Individuals who struggle with persistent, distressing, and excessive anxiety related to their closest relationships are in an unfortunate position. They often engage in self-sabotaging behaviors – whether they are aware of their maladaptive nature or not—directly contributing to their own unhappiness and to an atmosphere of relationship tension and to their partners’ frustration. Partners, for their part, often also engage in accommodating behaviors that often ultimately have the opposite of their intended soothing intent. Couples may struggle for years with these entrenched patterns of interaction, or individuals may enact such patterns repeatedly in relationship after failed relationship. Others may experience a less entrenched version of these patterns, perhaps feeling particularly vulnerable in a certain romantic relationship for one reason or another and start engaging in reassurance-seeking and self-silencing as a result.

Helping couples to better understand the perspective of each partner in the relationship, their own contributions to behavioral patterns, the nature of anxiety, as well as how to communicate more effectively about all of these contributing factors sounds on the surface like a difficult and intensive therapeutic task. However, in the current studies it was demonstrated that when such an intervention is targeted and focuses on very specific behaviors and is individualized to each couple (though consistently following a theoretical approach based in CBCT and exposure-based principles), it is possible to create change in a single intervention session. Therefore, these studies not only offer a content-based

contribution to the field, but a process-based contribution as well, with the hope that researchers continue to evaluate the relative effectiveness of treatments that may be quite brief in duration, and therefore extremely cost-effective and feasible for patients. It will be especially important to evaluate such interventions among populations that could benefit most from interventions of this nature, namely low-income and treatment-avoidant individuals and couples who might not otherwise be able to engage in psychotherapy. Overall, it is quite encouraging to see that individuals who at baseline report high attachment anxiety were able to shift to normative levels after such a brief and targeted intervention, especially given that such constructs are considered by many to be highly stable and resistant to change. When both members of a couple are motivated to create a stable, safe, and happy relationship even in the face of one partner's persistent difficulties with anxiety, perhaps even simple and brief interventions can be a highly valuable and productive tool to help them in optimizing their relationship.

Table 1. Study 1 descriptive statistics by gender

Variable	Women		Men		Paired <i>T</i> test
	Mean	SD	Mean	SD	
Attachment anxiety	18.39	6.47	16.68	5.54	<i>t</i> (96) = 2.24*
Attachment avoidance	10.22	4.88	11.94	5.44	<i>t</i> (96) = -3.13**
Differentiation of self	117.50	27.46	135.05	20.04	<i>t</i> (92) = -5.41**
Self-silencing	75.34	17.13	81.67	14.07	<i>t</i> (93) = -3.47**
Reassurance-seeking	50.82	18.59	43.94	13.50	<i>t</i> (94) = 3.26**
Accommodation	19.07	7.02	23.32	6.42	<i>t</i> (94) = -4.91**
Intolerance of uncertainty	2.46	0.76	2.36	0.62	<i>t</i> (94) = 0.92
Relationship satisfaction	25.75	4.95	25.92	4.18	<i>t</i> (96) = -0.36
Depressive symptoms	11.43	10.04	10.72	8.48	<i>t</i> (90) = 0.59
Anxious symptoms	7.16	9.70	5.48	7.63	<i>t</i> (94) = 1.43

Note. SD=Standard Deviation. For paired t-test men's scores were subtracted from women's scores.

* $p < .05$. ** $p < .01$.

Table 2. Study 1 correlations for women

Variable	1	2	3	4	5	6	7	8	9	10
1. Attachment anxiety	1.00									
2. Attachment avoidance	.46**	1.00								
3. Differentiation of self	-.52**	-.26*	1.00							
4. Self-silencing	.44**	.51**	-.66**	1.00						
5. Reassurance-seeking	.72**	.30**	-.54**	.43**	1.00					
6. Accommodation	.39**	.34**	-.40**	.62**	.44**	1.00				
7. Intolerance of uncertainty	.37**	.17	-.55**	.31**	.58**	.26*	1.00			
8. Relationship satisfaction	-.49**	-.53**	.25*	-.44**	-.34**	-.44**	-.24*	1.00		
9. Depressive symptoms	.44**	.28**	-.52**	.54**	.60**	.53**	.49**	-.24*	1.00	
10. Anxious symptoms	.38**	.18	-.43**	.38**	.45**	.40**	.51**	-.22*	.73**	1.00

Note. * $p < .05$. ** $p < .01$.

Table 3. Study 1 correlations for men

Variable	1	2	3	4	5	6	7	8	9	10
1. Attachment anxiety	1.00									
2. Attachment avoidance	.39**	1.00								
3. Differentiation of self	-.37**	-.25*	1.00							
4. Self-silencing	.36**	-.48**	-.57**	1.00						
5. Reassurance-seeking	.59*	.23*	-.51**	.43**	1.00					
6. Accommodation	.33*	.57**	-.33**	.62**	.34**	1.00				
7. Intolerance of uncertainty	.20	.15	-.44**	.38**	.49**	.19	1.00			
8. Relationship satisfaction	-.40**	-.51**	.26*	-.43**	-.23*	-.48**	-.05	1.00		
9. Depressive symptoms	.39**	.41**	-.29**	.44**	.44**	.39**	.39**	-.33**	1.00	
10. Anxious symptoms	.33**	.22*	-.27**	.20	.34*	.24*	.31**	-.24*	.56**	1.00

Note. * $p < .05$. ** $p < .01$.

Table 4. Study 1 cross-partner correlations

Variable	1	2	3	4	5	6	7	8	9	10
1. Attachment anxiety	.22*	.42**	-.32**	.32**	.32**	.49**	.13	-.50**	.23*	.23*
2. Attachment avoidance	.33**	.46**	-.13	.34**	.29**	.31**	.05	-.41**	.31**	.09
3. Differentiation of self	-.13	-.05	.21*	-.03	-.22*	-.11	.05	.19	-.06	.04
4. Self-silencing	.22*	.22*	-.26*	.19	.25*	.15	.07	-.35**	.15	-.01
5. Reassurance-seeking	.23*	.33**	-.30**	.40**	.38**	.57**	.09	-.45**	.23*	.07
6. Accommodation	.42**	.18	-.25*	.11	.55**	.17	.09	-.30**	.23*	.08
7. Intolerance of uncertainty	.17	.02	-.22*	.17	.27**	.31**	-.02	-.25*	-.01	-.14
8. Relationship satisfaction	-.36**	-.45**	.33**	-.45**	-.43**	-.40**	-.20	.53**	-.32**	-.15
9. Depressive symptoms	.25*	.18	-.30**	.13	.40**	.20	.06	-.23*	.15	.07
10. Anxious symptoms	.16	.13	-.18	.08	.34**	.22*	.09	-.19	.15	.11

Note. The left column denotes women's variables and the top row denotes men's variables

* $p < .05$. ** $p < .01$.

Table 5. Study 1 direct effects from path analysis model

Predictor Variable	Outcome Variable	β (SE)	95% CI	
Direct Effects				
Relationship anxiety	Reassurance seeking	.66 (.04)**	.58	.73
Relationship anxiety	Self-silencing	.40 (.08)**	.25	.56
Reassurance-seeking	Partner accommodation	.57 (.06)**	.46	.69
Self-silencing	Own relationship satisfaction	-.32 (.07)**	-.46	-.19
Self-silencing	Partner's relationship satisfaction	-.32 (.07) **	-.45	-.18
Partner accommodation	Own relationship satisfaction	-.20 (.08) **	-.35	-.04
Partner accommodation	Partner's relationship satisfaction	-.35 (.07) **	-.49	-.21
Effects of Covariates				
Gender	Reassurance seeking	.15 (.04) **	.06	.23
Gender	Self-silencing	-.26 (.06) **	-.38	-.14

Note. β = Standardized Estimate for the Effect. SE = Standard Error. 95% CI = 95% Confidence Interval.

* $p < .05$. ** $p < .01$.

Table 6. Study 1 comparing direct and indirect effects

Predictor Variable	Outcome Variable	β (SE)	% of Total Effect
Total Effects			
Relationship anxiety	Own relationship satisfaction	-.45 (.07)**	---
Relationship anxiety	Partner's relationship satisfaction	-.40 (.06)**	---
Direct Effects			
Relationship anxiety	Own relationship satisfaction	-.24 (.08) **	54%
Relationship anxiety	Partner's relationship satisfaction	-.14 (.07)	35%
Indirect Effects: Reassurance seeking and Partner accommodation as mediators			
Relationship anxiety	Own relationship satisfaction	-.07 (.03) *	17%
Relationship anxiety	Partner's relationship satisfaction	-.13 (.04) **	33%
Indirect Effects: Self-silencing as mediator			
Relationship anxiety	Own relationship satisfaction	-.13 (.04) **	29%
Relationship anxiety	Partner's relationship satisfaction	-.13 (.04) **	32%

Note. β = Standardized Estimate for the Effect. SE = Standard Error. 95% CI = 95% Confidence Interval.

* $p < .05$. ** $p < .01$.

Table 7. Study 1 direct effects with depressive symptoms included

Predictor Variable	Outcome Variable	β (SE)	95% CI	
Direct Effects				
Relationship anxiety	Reassurance seeking	.49 (.05)**	.40	.59
Relationship anxiety	Self-silencing	.24 (.09)**	.07	.41
Reassurance-seeking	Partner accommodation	.55 (.09)**	.38	.72
Self-silencing	Own relationship satisfaction	-.33 (.07)**	-.47	-.19
Self-silencing	Partner's relationship satisfaction	-.31 (.07) **	-.45	-.17
Partner accommodation	Own relationship satisfaction	-.21 (.08) **	-.37	-.05
Partner accommodation	Partner's relationship satisfaction	-.33 (.07) **	-.47	-.19
Effects of Covariates				
Gender	Reassurance seeking	.16 (.04) **	.08	.24
Gender	Self-silencing	-.24 (.06) **	-.35	-.13
Own depressive symptoms	Reassurance seeking	.30 (.05) **	.19	.40
Own depressive symptoms	Self-silencing	.39 (.07) **	.24	.53
Own depressive symptoms	Partner accommodation	-.12 (.07)	-.25	.009
Partner's depressive symptoms	Reassurance-seeking	.13 (.05) **	.03	.23
Partner's depressive symptoms	Partner accommodation	.30 (.08) **	.14	.45

Note. β = Standardized Estimate for the Effect. SE = Standard Error. 95% CI = 95% Confidence Interval.

* $p < .05$. ** $p < .01$.

Table 8. Study 2 comparing baseline means of patients and partners

Variable	Patients		Partners		Paired <i>T</i> test
	Mean	SD	Mean	SD	
Attachment anxiety	29.05	5.62	15.86	4.66	$t(20) = 7.09^{**}$
Attachment avoidance	14.76	6.06	15.90	5.13	$t(20) = -0.63$
Differentiation of self	95.19	21.70	---	---	---
Self-silencing	94.15	18.06	---	---	---
Reassurance-seeking	72.15	16.53	---	---	---
Accommodation	---	---	6.08	1.63	---
Intolerance of uncertainty	2.88	0.81	---	---	---
Relationship satisfaction	24.33	3.23	23.00	3.03	$t(20) = 1.49$
Depressive symptoms	22.42	11.46	13.11	8.29	$t(18) = 3.37^{**}$
Anxious symptoms	12.60	9.35	8.50	10.42	$t(19) = 1.35$

Note. SD=Standard Deviation. For paired t-test partners' scores were subtracted from patients' scores.

* $p < .05$. ** $p < .01$. + $p < .10$.

Table 9. Study 2 comparing means pre- and post-intervention for patients

Variable	Baseline		Post-Intervention		Paired <i>T</i> test
	Mean	SD	Mean	SD	
Attachment anxiety	29.05	5.62	18.76	6.50	$t(20) = 7.15^{**}$
Attachment avoidance	14.76	6.06	13.71	5.90	$t(20) = 0.76$
Differentiation of self	95.19	21.70	118.62	22.64	$t(20) = -6.39^{**}$
Self-silencing	94.15	18.06	76.95	13.58	$t(19) = 4.84^{**}$
Reassurance-seeking	72.15	16.53	42.60	11.18	$t(19) = 9.72^{**}$
Intolerance of uncertainty	2.88	0.81	2.78	0.83	$t(20) = 1.40$
Relationship satisfaction	24.33	3.23	26.00	4.40	$t(20) = -2.75^*$
Depressive symptoms	21.61	11.22	16.61	8.01	$t(17) = 2.47^*$
Anxious symptoms	12.60	9.35	9.80	7.42	$t(19) = 1.93^+$

Note. SD=Standard Deviation. For paired t-test post-intervention scores were subtracted from baseline scores.

* $p < .05$. ** $p < .01$. $^+p < .10$.

Table 10. Study 2 comparing means pre- and post-intervention for partners

Variable	Baseline		Post-Intervention		Paired <i>T</i> test
	Mean	SD	Mean	SD	
Attachment anxiety	15.86	4.66	11.76	4.33	$t(20) = 4.33^{**}$
Attachment avoidance	15.80	5.24	15.65	5.51	$t(19) = 0.18$
Accommodation	30.10	7.73	24.62	6.85	$t(20) = 4.13^{**}$
Relationship satisfaction	23.00	3.03	23.43	4.02	$t(20) = -0.68$
Depressive symptoms	12.80	8.19	11.65	9.78	$t(19) = 0.66$
Anxious symptoms	8.43	10.16	7.00	9.18	$t(20) = 1.75^{+}$

Note. SD=Standard Deviation. For paired t-test post-intervention scores were subtracted from baseline scores.

* $p < .05$. ** $p < .01$. $^{+}p < .10$.

Table 11. Study 2 clinically significant and reliable change for patients

Outcome	Attachment anxiety	Differentiation of self	Self-silencing	Reassurance-seeking	Relationship satisfaction	Depressive symptoms
High endstate functioning	14 (67%)	14 (67%)	12 (57%)	17 (81%)	8 (38%)	7 (33%)
Reliable improvement	4 (19%)	5 (24%)	3 (14%)	2 (9%)	3 (14%)	6 (29%)
No reliable change	3 (14%)	0 (0%)	5 (24%)	2 (9%)	6 (29%)	4 (19%)
Reliable deterioration	0 (0%)	2 (9%)	1 (5%)	0 (0%)	4 (19%)	4 (19%)

Table 12. Study 2 clinically significant and reliable change for partners

Outcome	Attachment anxiety	Accommodation
High endstate functioning	12 (57%)	12 (57%)
Reliable improvement	3 (14%)	5 (24%)
No reliable change	4 (19%)	0 (0%)
Reliable deterioration	2 (9%)	4 (19%)

Table 13. Study 2 within-group effect size comparisons

Variable	Current sample	Relationship check-up ^a	Behavioral couples therapy ^b	Wait-list control ^b	OCD couples study ^c
Attachment anxiety	1.69	--	--	--	--
Attachment anxiety (partners)	0.91	--	--	--	--
Reassurance-seeking	2.24	--	--	--	--
Differentiation of self	-1.05	--	--	--	--
Self-silencing	1.10	--	--	--	--
Relationship satisfaction	-0.43	-0.29	-0.82	.06	-0.39
Depressive symptoms	0.51	--	--	--	1.29
Partner accommodation	0.78	--	--	--	0.73

Note. All effect sizes calculated by subtracting post-intervention scores from baseline scores and dividing by the pooled standard deviation. Unless otherwise specified, effect sizes from the current sample are for patients (rather than partners).

^a Cordova et. al (2005)

^b D. Baucom et al. (2003)

^c Abramowitz et al. (2013)

Figure 1. Study 1 proposed conceptual model

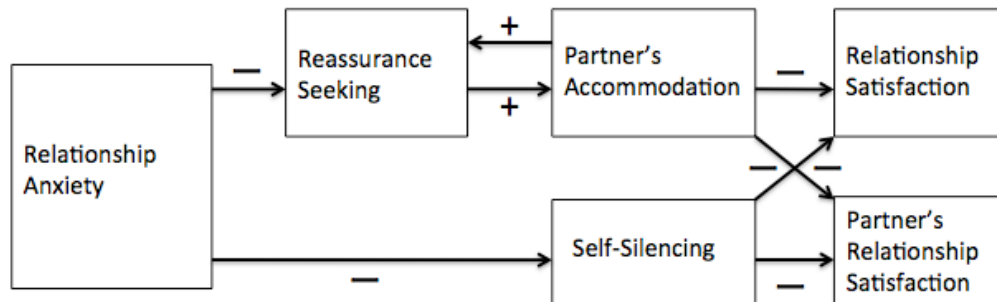


Figure 2. Study 1 mutual influence portion of model

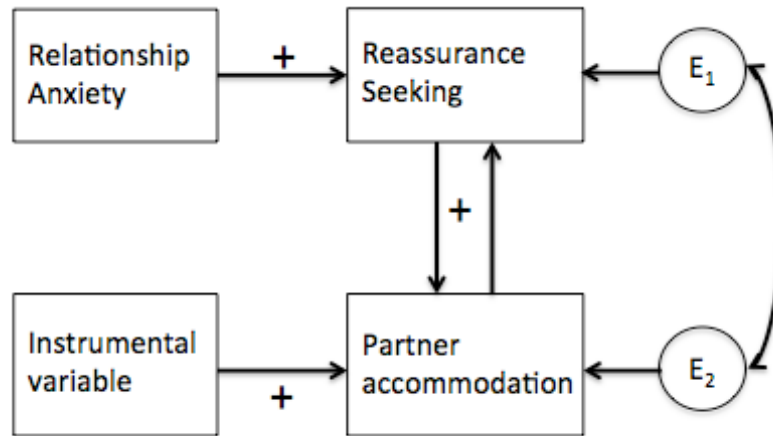


Figure 3. Study 1 actor-partner portion of model

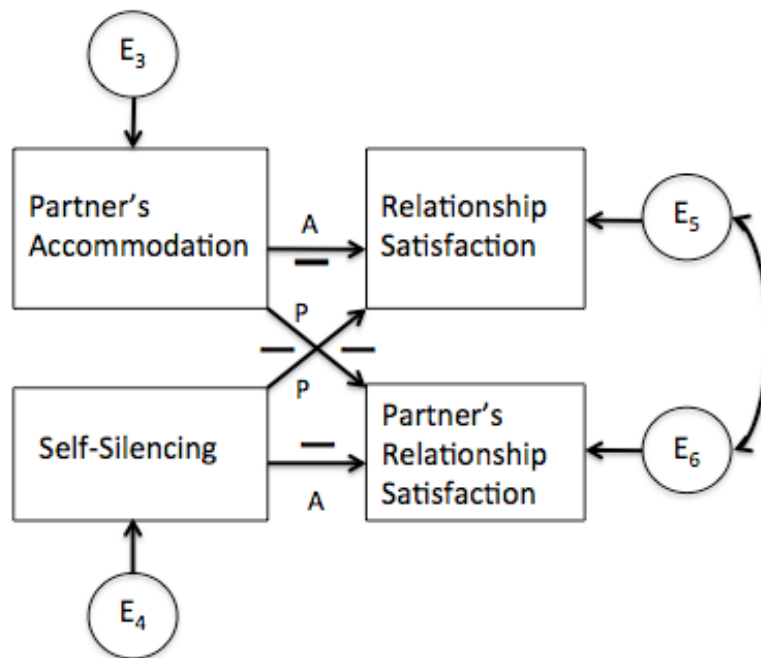


Figure 4. Study 1 simplified model without feedback loop

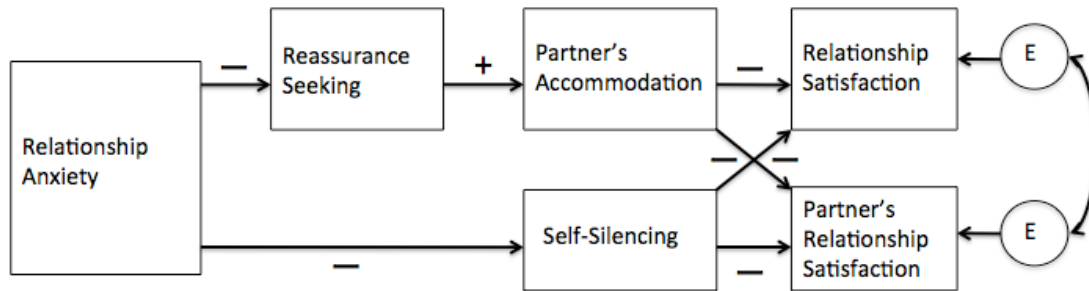
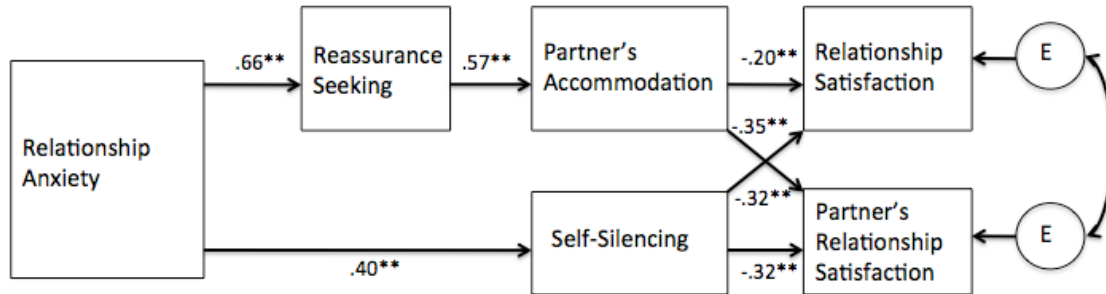


Figure 5. Study 1 model with results included



REFERENCES

- Abramowitz, J.A., Baucom, D.H., Wheaton, M.G., Boeding, S., Fabricant, L.E., Paprocki, C., & Fischer, M. (in press). Enhancing exposure and response prevention for OCD: A couple-based approach. *Behavior Modification*.
- Abramowitz, J.S., Tolin, D.F., & Street, G.P. (2001). Paradoxical effects of thought suppression: A meta-analysis of controlled studies. *Clinical Psychology Review, 21*, 683-703.
- Amir, N., Beard, C., Taylor, C.T., Klumpp, H., Elias, J., Burns, M., & Chen, X. (2009). Attention training in individuals with generalized social phobia: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 77*, 961-973.
- Anestis, M.D., Selby, E., & Joiner, T.E. (2007). The role of urgency in maladaptive behaviors. *Behaviour Research and Therapy, 45*, 3018-3029.
- Aron, A., Aron, E.N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596-612.
- Baucom, B.R., Atkins, D.C., Eldridge, K., McFarland, P., Sevier, M., & Christensen, A. (2011). The language of demand/withdraw: Verbal and vocal expression in dyadic interactions. *Journal of Family Psychology, 25*, 570-580.
- Baucom, B.R., McFarland, P.T., & Christensen, A. (2010). Gender, topic, and time in observed demand-withdraw interaction in cross-and same-sex couples. *Journal of Family Psychology, 24*, 233-242.
- Baucom, D.H., Hahlweg, K., & Kuschel, A. (2003). Are waiting-list control groups needed in future marital therapy outcome research? *Behavior Therapy, 34*, 179-188.
- Baumeister, R.F., & Scher, S.J. (1988). Self-defeating behavior patterns among normal individuals: Review and analysis of common self-destructive tendencies. *Psychological Bulletin, 104*, 3-22.
- Beard, C., & Amir, N. (2008). A multi-session interpretation modification program: Changes in interpretation and social anxiety symptoms. *Behaviour Research and Therapy, 46*, 1135-1141.
- Beck, A.T., Epstein, N., Brown, G., & Steer, R.A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*, 893-897.

- Beck, R., Robbins, M., Taylor, c., & Baker, L. (2001). An examination of sociotropy and excessive reassurance seeking in the prediction of depression. *Journal of Psychopathology and Behavioral Assessment*, 23, 101-105.
- Birgenheir, D.G., Pepper, C.M., & Johns, M. (2010). ERS as a mediator of sociotropy and negative interpersonal life events. *Cognitive Therapy Research*, 34, 188-195.
- Boeding, S.E., Paprocki, C.M., Baucom, D.H., Abramowitz, J.A., Wheaton, M.G., Fabricant, L.E., & Fischer, M.S. (2012). Let me check that for you: Symptom accommodation in romantic partners of adults with Obsessive Compulsive Disorder. Manuscript submitted for publication.
- Bowen, M. (1978). *Family Therapy in Clinical Practice*. New York: Jason Aronson.
- Bowlby, J. (1977). The making and breaking of affectional bonds: Aetiology and psychopathology in the light of attachment theory. *British Journal of Psychiatry*, 130, 201-210.
- Calvocoressi, L., Mazure, C., Kasl, S., Skolnick, J., Fisk, D., Vegso, S., van Noppen, B., & Price, L. (1999). Family accommodation of obsessive-compulsive symptoms: Instrument development and assessment of family behavior. *Journal of Nervous and Mental Disease*, 187, 636-642.
- Campbell, A. (2012). Single-session approaches to therapy: Time to review. *The Australian and New Zealand Journal of Family Therapy*, 33, 15-26.
- Campbell, L., Simpson, J.A., Boldry, J., & Kashy, D.A. (2005). Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. *Journal of Personality and Social Psychology*, 88, 510-531.
- Carnelley, K.B., & Rowe, A.C. (2010). Priming a sense of security: What goes through people's minds? *Journal of Social and Personal Relationships*, 27, 253-261.
- Chambless, D.L., Sanderson, W.C., Shoham, V., Johnson, S.B., Pope, K.S., Crits-Christoph, P., Baker, M.J., Johnson, B., Woody, S.R., Sue, S., Beutler, L., Williams, D.A., & McCurry, S. (1996). An updated on empirically validated therapies. *The Clinical Psychologist*, 49, 5-18.
- Christensen, A., Baucom, D.H., Vu, C.T., & Stanton, S. (2005). Methodologically sound, cost-effective research on the outcome of couple therapy. *Journal of Family Psychology*, 19, 6-17.
- Collins, N.L., & Feeney, B.C. (2004). Working models of attachment shape perceptions of social support: Evidence from experimental and observational studies. *Journal of Personality and Social Psychology*, 87, 363-383.

- Collins, N.L., & Read, S.J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58, 644-663.
- Cordova, J.V., Scott, R.L., Mirgain, S., Yaeger, D., & Groot, A. (2005). The marriage checkup: An indicated preventive intervention for treatment-avoidant couples at risk for marital deterioration. *Behavior Therapy*, 36, 301-309.
- Creamer, M., Foran, J., & Bell, R. (1995). The Beck Anxiety Inventory in a nonclinical sample. *Behaviour Research and Therapy*, 33, 477-485.
- Cunningham, M.R., Shamblen, S.R., Barbee, A.P., & Ault, L.K. (2005). Social allergies in romantic relationships: Behavioral repetition, emotional sensitization, and dissatisfaction in dating couples. *Personal Relationships*, 12, 273-295.
- Curran, P.J., & Bauer, D.J. (2011). *Structural Equation Modeling: Course Notes*. Chapel Hill, NC: Curran-Bauer Analytics, LLC.
- Dandeneau, S.D., Baldwin, M.W., Baccus, J.R., Sakellaropoulo, M., & Pruessner, J.C. (2007). Cutting stress off at the pass: Reducing vigilance and responsiveness to social threat by manipulating attention. *Journal of Personality and Social Psychology*, 93, 651-666.
- Davis, M. (1980). A multidimensional approach to individual differences in empathy. *Catalog of Selected Documents in Psychology*, 10, 85.
- Deacon, B., & Abramowitz, J. (2006). A pilot study of two-day cognitive-behavioral therapy for panic disorder. *Behaviour Research and Therapy*, 44, 807-817.
- Downey, G., & Feldman, S.I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, 70, 1327-1343.
- Downey, G., Frietas, A.L., Michaelis, B., & Khouri, H. (1998). The self-fulfilling prophecy in close relationships: Rejection sensitivity and rejection by romantic partners. *Journal of Personality and Social Psychology*, 75, 545-560.
- Ein-Dor, T., Mikulincer, M., & Shaver, P.R. (2011). Attachment insecurities and the processing of threat-related information: Studying the schemas involved in insecure people's coping strategies. *Journal of Personality and Social Psychology*, 101, 78-93.
- Epstein, N.B., & Baucom, D.H. (2003). *Enhanced Cognitive-Behavioral Therapy for Couples: A Contextual Approach*. Washington, DC: American Psychological Association.
- Gilliath, Selcuk, & Shaver. (2008). Moving toward a secure attachment style: Can repeated security priming help? *Social and Personality Psychology Compass*, 2/4, 1651-1666.

- Gillath, O., Sesko, A.K., Shaver, P.R., & Chun, D.S. (2010). Attachment, authenticity, and honesty: Dispositional and experimentally induced security can reduce self- and other-deception. *Journal of Personality and Social Psychology*, 98, 841-855.
- Halford, W.K. (2001). *Brief Therapy for Couples: Helping Partners Help Themselves*. New York: The Guilford Press.
- Heavey, C.L., Christensen, A., & Malamuth, N.M. (1995). The longitudinal impact of demand and withdrawal during marital conflict. *Journal of Consulting and Clinical Psychology*, 63, 797-801.
- Hu, L., & Bentler, P.M. (1998). Fit indices in covariance structure modeling: Sensitivity to unparametierized model misspecification. *Psychological Methods*, 3, 424-453.
- Jack, D.C. (1991). *Silencing the self: Women and depression*. Cambridge: Harvard University Press.
- Jack, D.C., & Ali, A. (2010). *Silencing the self across cultures: Depression and gender in the social world*. New York: Oxford University Press.
- Jack, D.C., & Dill, D. (1992). The silencing the self scale: Schemas of intimacy associated with depression in women. *Psychology of Women Quarterly*, 16, 97-106.
- Jacobson, J.A., & Weary, G. (1999). The role of causal uncertainty in the reassurance-seeking depression relation. *Psychological Inquiry*, 10, 288-290.
- Jacobson, N.S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59, 12-19.
- James, L.R., & Singh, B.K. (1978). An introduction to the logic, assumptions, and basic analytic procedures of two-stage least squares. *Psychological Bulletin*, 85, 1105-1122.
- Joiner, T.E., & Metalsky, G.I. (2001). Excessive reassurance-seeking: Delineating a risk factor involved in the development of depressive symptoms. *Psychological Science*, 12, 371-378.
- Kenny, D.A., Kashy, D.A., & Cook, W.L. (2006). *Dyadic Data Analysis*. New York: The Guilford Press.
- Knee, C.R., Canevello, A., Bush, A.L., & Cook, A. (2008). Relationship-contingent self-esteem and the ups and downs of romantic relationships. *Journal of Personality and Social Psychology*, 95, 608-627.

- Kobori, O., Salkovskis, P.M., Read, J., Lounes, N., & Wong, V. (2012). A qualitative study of the investigation of reassurance seeking in obsessive-compulsive disorder. *Journal of Obsessive-Compulsive and Related Disorders*, 1, 25-32.
- Laurenceau, J.P., Feldman Barrett, L., Pietromonaco, P.R. (1998). Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. *Journal of Personality and Social Psychology*, 74, 1238-1251.
- Lavy, Mikulincer, & Shaver (2010). Autonomy-proximity imbalance: An attachment theory perspective on intrusiveness in romantic relationships. *Personality and Individual Differences*, 48, 552-556.
- Lemay, E.P., & Clark, M.S. (2008). "Walking on eggshells": How expressing relationship insecurities perpetuates them. *Journal of Personality and Social Psychology*, 95, 420-441.
- Lemay, E.P., & Dudley, K.L. (2009). Implications of reflected appraisals of interpersonal insecurity for suspicion and power. *Personality and Social Psychology Bulletin*, 35, 1672-1686.
- Lemay, E.P., & Dudley, K.L. (2011). Caution: Fragile! Regulating the interpersonal security of chronically insecure partners. *Journal of Personality and Social Psychology*, 100, 681-702.
- Levant, R.F., Richmond, K., Majors, R.G., Inclan, J.E., Rossello, J.M., Heesacker, M., Rowan, G.T., & Sellers, A. (2003). A multicultural investigation of masculinity ideology and alexithymia. *Psychology of Men & Masculinity*, 4, 91-99.
- MacLeod, C., Rutherford, E., Campbell, L., Ebsworthy, G., & Holker, L. (2002). Selective attention and emotional vulnerability: Assessing the causal basis of their association through the experimental manipulation of attentional bias. *Journal of Abnormal Psychology*, 111, 107-123.
- Marigold, D.C., Holmes, J.G., & Ross, M. (2007). More than words: Reframing compliments from romantic partners fosters security in low self-esteem individuals. *Journal of Personality and Social Psychology*, 92, 232-248.
- Meyers, S.A., & Landsberger, S.A. (2002). Direct and indirect pathways between adult attachment style and marital satisfaction. *Personal Relationships*, 9, 159-172.
- Mickelson, K.D., Kessler, R.C., & Shaver, P.R. (1997). Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology*, 73, 1092-1106.

- Mikulincer, M., & Shaver, P.R. (2007). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry*, 18, 139-156.
- Miller, R.B., Anderson, S., & Keala D.K. (2004). Is Bowen theory valid? A review of basic research. *Journal of Marital and Family Therapy*, 30, 453-466.
- Morrill, M.I., Eubanks-Fleming, C.J., Harp, A.G., Sollenberger, J.W., Darling, E.V., & Cordova, J.V. (2011). The marriage checkup: Increasing access to marital health care. *Family Process*, 50, 471-485.
- Murray, S.L., Rose, P., Bellavia, G.M., Holmes, J.G., Kusche, A.G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology*, 83, 556-573.
- Neff, K.D., & Harter, S. (2002). The role of power and authenticity in relationship styles emphasizing autonomy, connectedness, or mutuality among adult couples. *Journal of Social and Personal Relationships*, 19, 835-857.
- Nguyen, T.D., Attkisson, C.C., & Stegner, B.L. (1983). Assessment of patient satisfaction: Development and refinement of a service evaluation questionnaire. *Evaluation and Program Planning*, 6, 299-313.
- Ost, L.G. (1989). One-session treatment for specific phobias. *Behaviour Research and Therapy*, 27, 1-7.
- Parrish, C.L., & Radomsky, A.S. (2010). Why do people seek reassurance and check repeatedly? An investigation of factors involved in compulsive behavior in OCD and depression. *Journal of Anxiety Disorders*, 24, 211-222.
- Peterson, K.M., Smith, D.A., & Windle, C.R. (2009). Explication of interspouse criticality bias. *Behaviour Research and Therapy*, 47, 478-486.
- Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement* 1, 385-401.
- Radomsky, A.S., Parrish, C., & Dugas, M.J. (2009). *The Depressive and Obsessive Reassurance Seeking Scale (DORSS)*. Quebec, Canada: Concordia University.
- Rholes, W.S., Simpson, J.A., Tran, S., Martin, A.M., & Friedman, M. (2007). Attachment and information seeking in romantic relationships. *Personality and Social Psychology Bulletin*, 33, 422-438.

- Robins, C.J., Ladd, J., Welkowitz, J., Blaney, P.H., Diaz, R., & Kutcher, G. (1994). The Personal Style Inventory: Preliminary validation studies of new measures of sociotropy and autonomy. *Journal of Psychopathology and Behavioral Assessment*, 16, 277-300.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Schmidt, N.B., Richey, J.A., Buckner, J.D., & Timpano, K.R. (2009). Attention training for generalized social anxiety disorder. *Journal of Abnormal Psychology*, 118, 5-14.
- Schumacker, R.E., & Lomax, R.G. (1996). *A Beginner's Guide to Structural Equation Modeling*. New Jersey: Lawrence Erlbaum Associates.
- Sharpley, C.F., & Rogers, H.J. (1984). Preliminary validation of the Abbreviated Spanier Dyadic Adjustment Scale: Some psychometric data regarding a screening test of marital adjustment. *Educational and Psychological Measurement*, 44, 1045-1049.
- Simpson, J.A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, 59, 971-980.
- Simpson, J.A., Ickes, W., & Grich, J. (1999). When accuracy hurts: Reactions of anxious-ambivalent dating partners to a relationship-threatening situation. *Journal of Personality and Social Psychology*, 76, 754-769.
- Skowron, E.A. (2000). The role of differentiation of self in marital adjustment. *Journal of Counseling Psychology*, 47, 229-237.
- Skowron, E.A., & Schmitt, T.A. (2003). Assessing interpersonal fusion: Reliability and validity of a new DSI fusion with others subscale. *Journal of Marital and Family Therapy*, 29, 209-222.
- Smith, D.A., & Peterson, K.M. (2008). Overperception of spousal criticism in dysphoria and marital discord. *Behavior Therapy*, 39, 300-312.
- Srivastava, S., Tamir, M., McGonigal, K.M., John, O.P., & Gross, J.J. (2009). The social costs of emotional suppression: A prospective study of the transition to college. *Journal of Personality and Social Psychology*, 96, 883-897.
- Starr, L.R., & Davila, J. (2008). Excessive reassurance seeking, depression, and interpersonal rejection: A meta-analytic review. *Journal of Abnormal Psychology*, 117, 762-775.
- Steiger, J.H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87, 245-251.

- Sullaway, M., & Christensen, A. (1983). Assessment of dysfunctional interaction patterns in couples. *Journal of Marriage and the Family*, 45, 653-659.
- Swann & Bosson (1999). The flip side of the reassurance-seeking coin: The partner's perspective. *Psychological Inquiry*, 10, 302-304.
- Swann, W.B., Stein-Seroussi, A., & McNulty, S.E. (1992). Outcasts in a white-lie society: The enigmatic worlds of people with negative self-conceptions. *Journal of Personality and Social Psychology*, 62, 618-624.
- Talmon, M. (2012). When less is more: Lessons from 25 years of attempting to maximize the effect of each (and often only) therapeutic encounter. *The Australian and New Zealand Journal of Family Therapy*, 33, 6-14.
- Theiss, J.A., & Haunani Solomon, D. (2006). A relational turbulence model of communication about irritations in romantic relationships. *Communication Research*, 33, 391-418.
- Thompson, J.M. (1995). Silencing the self: Depressive symptomatology and close relationships. *Psychology of Women Quarterly*, 19, 337-353.
- Tucker, L.R., & Lewis, C. (1973). Reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1-10.
- Wei, M., Russell, D.W., Mallinckrodt, B., & Vogel, D.L. (2007). The Experiences in Close Relationship Scale (ECR)-short form: Reliability, validity, and factor structure. *Journal of Personality Assessment*, 88, 187-204.
- Wenzlaff, R.M., & Wegner, D.M. (2000). Thought suppression. *Annual Review of Psychology*, 51, 59-91.
- Whiteside, S.P., Brown, A.M., & Abramowitz, J.S. (2008). Five-day intensive treatment for adolescent OCD: A case series. *Journal of Anxiety Disorders*, 22, 495-504.
- Wilson, E.J., MacLeod, C., Mathews, A., & Rutherford, E.M. (2006). The causal role of interpretive bias in anxiety reactivity. *Journal of Abnormal Psychology*, 115, 103-111.
- Yiend, J., Mackintosh, B., & Mathews, A. (2005). Enduring consequences of experimentally induced biases in interpretation. *Behaviour Research and Therapy*, 43, 779-797.
- Zlomke, K., & Davis, T.E. (2008). One-session treatment of specific phobias: A detailed description and review of treatment efficacy. *Behavior Therapy*, 39, 207-223.