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# Attachment and Feelings of Evaluation during Supportive Interactions

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Attachment and Feelings of Evaluation during Supportive Interactions

by

Jessica P. Goren

A Dissertation

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree of

Doctor of Philosophy

in

Psychology

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Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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Attachment and Feelings of Evaluation during Supportive Interactions

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## **Acknowledgments**

In his wisdom, Bowlby (1973) pointed out that "...human beings of all ages are found to be at their happiest and to be able to deploy their talents to best advantage when they are confident that, standing behind them, there are one or more trusted persons who will come to their aid should difficulties arise" (p.359). I am very grateful for the support of a number of people who have contributed in many ways both to my happiness and to helping me to achieve my goals. I would like to express my gratitude to my advisor, Chris Burke, for his support, guidance, and encouragement throughout the last 5 years. I would also like to thank my dissertation committee, Debbie Laible, Dominic Packer, and Susan Woodhouse, for their valuable feedback throughout the process of completing my dissertation. Furthermore, I want to express my appreciation to my fellow graduate students who have been great friends and an encouraging community. I am particularly grateful to my dear friend, Kaitlin Reiman Gottuso, who has been by my side throughout graduate school and has been a wonderful cheerleader in both the best times and the more challenging ones. Finally, I am deeply thankful to my wonderful family, without whose love and unwavering encouragement achieving my goals would not have been possible. I am particularly indebted to my parents for all that they have done, and continue to do, to support me, and to my fantastic husband, who has been an amazing support and has sacrificed to allow me to pursue my goals. Lastly, I am truly thankful for my wonderful daughter who has brought me more happiness than I ever could have imagined, even during the most stressful moments.

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## **Abstract**

Although social support is integral to dealing with the challenges of everyday life, research reveals that it can sometimes have unfavorable consequences. Social-cognitive models of behavior indicate that an individual's cognitive appraisal of a supportive interaction is critical to the resulting consequences, and research suggests that interpreting support behaviors as evaluative may contribute to unfavorable reactions. The potential to feel negatively evaluated may be an inherent part of many supportive interactions, but not all individuals may be equally prone to such responses. Particularly, previous work suggests that attachment-related beliefs can shape the interpretation and experience of support receipt, acting as an interpretive filter through which individuals develop expectations about support, make decisions to elicit or avoid support receipt, and interpret their experiences. This dissertation examines the relationship between attachment and perceptions of unfavorable evaluations within supportive interactions and investigates the emotional and behavioral consequences. Furthermore, the present work emphasizes the interrelatedness amongst different aspects of the support process, predicting that perceptions of supportive interactions unfold in such a way that past experiences influence expectations, memory, and subsequent behaviors related to future support receipt. Study 1 used an ongoing vignette scenario to assess the influence of attachment on expectations that support will result in negative evaluations and the degree to which this affects anticipated emotions and the desire to receive subsequent support. Study 2 examined the interrelations amongst attachment, perceptions

of being negatively evaluated, and emotional and behavioral reactions in actual supportive situations as well as how attachment style influences memories of these experiences. Overall, this work provides evidence that working models of attachment shape appraisals of supportive interactions, including partial support for the link between anxiety and perceived negative evaluations. This research also draws attention to the dynamic interplay between different parts of the support process, highlighting links between past experiences of support and future openness to support receipt as well as some evidence for the influence of working models of attachment on memory for experiences of interactions. I discuss the implications of this research and how it contributes to the current literature aimed at understanding reactions to enacted support.

## Chapter 1: Introduction

Social support is an integral part of dealing with the challenges that life presents and it seems to go without saying that, in many times of need, people would not fare as well in the absence of help. While the social support literature appears on the surface to provide evidence for the benefits of supportive behaviors (e.g., Cobb, 1976; Cohen, 2004; Cohen & Wills, 1985; Uchino, 2009), the majority of this work focuses on general perceptions of support availability (known as perceived support) rather than specific instances of support receipt, which have been associated with both positive and negative outcomes (e.g., Bolger, Zuckerman, & Kessler, 2000; Burke, 2009; Burke & Goren, 2014; Lepore, Glaser, & Roberts, 2008; Nadler, Fisher, & Ben Itzhak, 1983; Newsom, 1999; Shrout, Herman, & Bolger, 2006). The mixed consequences linked to received support raise the important question: *What factors determine whether receiving support will lead to positive or negative outcomes in a given instance?*

Because this dissertation focuses on understanding enacted (or received) support, it is important to first define what is meant by this term. According to Barrera (1986), enacted support refers to “actions that others perform when they render assistance to a focal person” (p. 417), which may include tangible/instrumental, informational, and emotional assistance. While enacted support can be considered helping behaviors that one person directs towards another, depending on the goals of a study, the presence of support can be assessed subjectively by gauging instances of assistance as reported by the provider and/or perceptions of support having occurred from the viewpoint of the

recipient. As in the present work, enacted support can also be experimentally manipulated, which provides a more objective indication of whether support occurred.

While experimentally controlling the presence or absence of supportive behaviors, the present studies focus on assessing the recipient's perspective in response to their experiences. This includes the degree to which an individual perceives that a behavior has occurred and subsequently classifies that behavior as a supportive act as well as the thoughts and feelings they have in response to their interaction. Enacted support is different from other positive interpersonal behaviors in that the recipient believes that the provider performed the behavior in response to a perceived need on the part of the recipient. Alternatively, something such as a loving act, which is a type of positive interpersonal behavior that is not performed in response to any perceived need (often thought of as a nice act that was performed "for no particular reason"), would be distinct from supportive behaviors (Burke, Perndorfer, & Goren, 2013, January). It is specifically when supportive behaviors are believed to have occurred (as opposed to when they go undetected or are not categorized as support) that the psychological impact of enacted support becomes apparent.

Past work has examined the consequences associated with social support in a variety of ways. Some researchers have gauged reactions to support by means of physiological indices correlated with the stress response, including heart rate (Allen, Blascovich, & Mendes, 2002; Allen, Blascovich, Tomaka, & Kelsey, 1991; Goren, 2012; Kors, Linden, & Gerin, 1997), skin conductance

(Allen et al., 1991; Goren, 2012), and blood pressure (Allen et al., 2002; Allen et al., 1991; Kors et al., 1997). Behavioral measures, such as support seeking tendencies (DePaulo & Fisher, 1980; Tessler & Schwartz, 1972), have also been used to evaluate reactions to support. Furthermore, self-reports have often been utilized to assess how people feel as a result of the support that they receive. Amongst the types of reactions that have been gauged using self-reports, some include feelings of distress (Bolger & Amarel, 2007; Burke & Goren, 2014), being loved and supported (Burke, 2009), self-evaluations (Burke & Goren, 2014), perceptions of being judged as ineffectual (Bolger & Amarel, 2007), and ratings of partner support (Collins & Feeney, 2004). The present work primarily focuses on self-reports, using a variety of questions that focus on a range of specific types of thoughts and feelings that may occur in response to one's interactions. Using self-reports in this work allows for the assessment of nuanced reactions from the subjective viewpoint of the recipient. I also include assessments of behavioral responses as a manifestation of emotional reactions that can provide insight into the downstream consequences of experiences in supportive interactions.

### **A Social-Cognitive Perspective to Understanding Support**

The Experiences in Supportive Interactions model (ESI; Burke, Ignarri, & Goren, 2013; See Figure 1) aims to provide a comprehensive framework for understanding the mixed consequences that have been associated with support receipt by accounting for the cognitive effects of support. Taking a social-cognitive approach to understanding reactions to enacted support, this model

suggests that an individual's psychological appraisal of support is critical to his or her reactions to its receipt. Furthermore, this model highlights the importance of both individual and situational factors in shaping interpretations of support.

Research provides evidence for the importance of cognitive processes in shaping the outcomes associated with support, highlighting the importance of interpretations of supportive events in molding reactions to these experiences. In order to understand how people experience support, it is essential to consider how individuals attribute meaning to supportive events. In his seminal work on social support, Cobb (1976) defined support not as an event, but as *information* that one is loved and cared for, valued, and/or part of a supportive network. Subsequent research further suggests that support has the potential to communicate both supportive and threatening information (Burke, 2009; Burke & Goren, 2014; Fisher, Nadler, & Whitcher-Alagna, 1982; Gleason, Iida, Shrout, & Bolger, 2008), often simultaneously. Specifically, support can be interpreted in terms of its positive relational implications, for example, suggesting that one is loved and cared for. Conversely, it can also be interpreted in terms of its negative implications for the self, such as that one has demonstrated shortcomings in the ability to accomplish the relevant goal independently. The work of Gleason and colleagues (2008) provides evidence that both construals of supportive events can occur simultaneously, demonstrating that days of support receipt were accompanied concurrently by heightened feelings of closeness and intimacy as well as distress.



Research on invisible support draws attention to the interpretive aspect of supportive interactions as critical to the outcomes associated with support receipt. This work demonstrates that receiving support from another person that occurs outside of the awareness of the recipient (i.e., the provider reports having given support but the recipient does not report having received any) is generally associated with benefits, whereas costs of support are often present when an individual is aware of receiving support (Bolger & Amarel, 2007; Bolger et al., 2000; Howland & Simpson, 2010). The fact that the negative outcomes linked to support are associated with awareness of receiving help suggests that there is something in the cognitive interpretation of supportive events that can be threatening, even when the tangible outcomes associated with support are otherwise beneficial. In other words, this research provides evidence that there is a cognitive basis for at least some of the costs associated with support receipt.

The ESI model (Burke et al., 2013) argues not only for the role of cognitive appraisals of support in influencing its consequences, but, further, suggests a range of factors that should affect the meaning ascribed to the supportive event. This model asserts that both contextual and individual characteristics shape active beliefs about self and others, and can make specific concerns more or less salient within a given situation. Subsequently, support recipients' active beliefs guide the processing and interpretation of supportive interactions and, consequently, reactions to enacted support. For example, attachment-related beliefs, as an important contributor to an individual's active beliefs, should play a role in shaping perceptions of and reactions to supportive interactions. The

same should likewise be true of contextual factors (e.g., the self-relevance of a stressor) to the extent that they also influence one's active beliefs in a given situation.

Research by Burke and Goren (2014) demonstrates the importance of cognitive appraisals of supportive events in shaping the consequences associated with enacted support by demonstrating the influence of contextual factors in shaping the meaning attributed to support and, thus, reactions to its receipt. Across two studies, the self-relevance<sup>1</sup> of the context in which support receipt takes place was found to impact recipients' reactions to support receipt. Study 1 was a daily diary study that recorded the real-world experiences of law students preparing for the Bar Exam. Findings revealed that at times when the Bar Exam (a highly self-relevant stressor) was most salient (i.e., both when exam-related stress was the most stressful event of the day and as the exam approached in time), support receipt was associated with increasingly negative reactions (i.e., greater distress) among those preparing for the upcoming test. Study 2 was a lab-based experiment in which the framing of a challenging task was manipulated to suggest that the task was either self-relevant (i.e., related to intelligence and academic potential) or not. Results indicated that support was related to greater increases in distress when the task was presented as self-relevant compared to when it was not and that the relationship between task self-

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<sup>1</sup> In the given work, we define something as self-relevant if the domain, or task itself, is considered important or valuable to the person, it is influential to the individual's self-concept, and it is related to a matter for which success and achievement are personally important (see Burke & Goren, 2014).

relevance and distress was mediated by negative self-evaluations. This work demonstrates that the framing of a task impacts the meaning derived from support, with help in self-relevant situations being more strongly associated with negative self-evaluations than help in less self-relevant situations. By controlling the nature of the support provision and the stressor while manipulating only the framing of the task, this study demonstrates that contextual factors impact the meaning derived from supportive interactions, which, in turn, are critical to the more general consequences connected to enacted support. These studies underline the role of cognitive processes in shaping the outcomes associated with support receipt.

In gaining a more comprehensive understanding of the ways in which active beliefs and, in turn, cognitive appraisals influence experiences of support, the Experiences in Supportive Interactions model (Burke et al., 2013) takes an important step by emphasizing the interconnections among different parts of the support process. This model stresses the view that support occurs as a feedback process. While appraisals of a given event are colored by one's active beliefs at the time, these evaluations of supportive experiences subsequently contribute to both the general and active beliefs that shape interpretations of subsequent support. Because one's active beliefs influence interpretations of experiences as they occur, these beliefs tend to bias assessments of the current interaction to fit with prior expectations, thus maintaining and reinforcing them. For example, when a person who has developed the belief that others cannot reliably be counted on to provide support when needed experiences an instance

of support, he or she may not categorize the behavior as such, or may assume ulterior motives or situational factors that contribute to construals of the support as something other than a well-intended supportive act. This support behavior then ironically acts as another experience consistent with the belief that others are not available to provide good quality, genuine support when needed, thus, strengthening the previously held belief. In other words, different aspects of the support process (e.g., antecedents of support, detection of support, appraisals about the support) are closely interrelated and impact one another in an ongoing manner.

### **Perceptions of Support as Evaluative**

The Experiences in Supportive Interactions model (Burke et al., 2013) asserts that perceptions of support are critical to the consequences associated with its receipt. Understanding the factors that contribute to interpretations of support in one way as opposed to another is essential to understanding the mechanisms that drive differential reactions to its receipt. An examination of the literature suggests that the evaluative potential of supportive interactions may influence the experiences associated with support receipt and its resulting outcomes.

While the enacted support literature contains many examples of both positive (Abraído-Lanza, 2004; Kroelinger & Oths, 2000) and negative (Bolger et al., 2000; Burke, 2009; Lepore et al., 2008; Newsom, 1999; Shrout et al., 2006) reactions to support, the discrepancies, in some cases, might be due to differences in feelings of threat posed by the presence of the other person. This

possibility is supported indirectly by the fact that several studies that have found support to have a beneficial influence have minimized the potential for the support provider to evaluate the recipient (e.g., Gerin, Pieper, Levy, & Pickering, 1992; Kamarck, Annunziato, & Amateau, 1995; Kamarck, Manuck, & Jennings, 1990; Kors et al., 1997), while those situations that involve greater evaluative threat have often reported either the absence of beneficial reactions or the presence of negative outcomes as a result of support receipt (e.g., Allen et al., 1991; Kors et al., 1997).

In one investigation of how the evaluative potential of social support can impact physiological stress reactivity, Allen and colleagues (1991) examined reactions to support that varied with regard to the provider's ability to be evaluative. The experimenters compared physiological reactivity during a stressful task in response to the supportive presence of a close friend who was able to observe performance (evaluative) to that of the supportive presence of the individual's pet dog (non-evaluative), as well as to a control condition where the individual was alone. The researchers found that the greatest levels of reactivity were exhibited by those in the evaluative condition in which a supportive friend joined the participant, while those who received non-evaluative support from the presence of their canine companion showed the lowest levels of reactivity.

Although the non-evaluative support from an animal companion may be considered different from the comparison of the evaluative friend in more than one way, research performed by Kamarck et al. (1990) provides additional

evidence for the critical role of evaluation in shaping reactions to support receipt. The work of Kamarck and colleagues offers an example of a similar paradigm in which a person acted as the non-evaluative supporter. The researchers examined physiological reactivity in participants while completing a stressful task either alone or in the presence of a supportive friend whose evaluative ability was minimized via experimental methods (i.e., earphones and a distraction). Consistent with the results of Allen et al. (1991) in their non-evaluative condition, Kamarck et al. (1990) found that non-evaluative support was associated with attenuated physiological reactivity relative to being alone, thus providing evidence that non-evaluative support from another person can similarly be beneficial. Together, these studies offer support for the link between the potential for social evaluation and outcomes associated with supportive interactions.

In a more direct comparison of reactions to support with and without evaluative potential, Kors et al. (1997) examined cardiovascular reactivity during a stressful math task. The authors found that the presence of a supportive friend whose ability to evaluate one's performance was eliminated resulted in significantly lower levels of systolic blood pressure reactivity (relative to those performing the task alone) whereas the presence of a friend who was able to observe performance was associated with no such benefits. This work suggests that the degree to which a supportive situation simultaneously contributes to feelings of being evaluated may play a critical role in determining the nature of reactions to enacted support.

It is worth noting that the three studies just reviewed manipulated support via the mere presence of the other, with the supporter not engaging in any explicit support behaviors. Furthermore, while the evaluative potential of the situations was manipulated in this research, feelings of being evaluated were not directly assessed. A study by Bolger and Amarel (2007), which experimentally manipulated support provision and directly assessed perceptions of being evaluated, aligns more closely to the present work. Their research on invisible support (instances of support reported by the provider that the recipient is unaware of having received) provides stronger evidence that perceptions of unfavorable evaluations are associated with less favorable reactions to support receipt. In one of their studies, participants took part in a situation in which they were offered support while they completed a stressful speech task. Although the support conditions involved providing the same information on developing an effective speech, the evaluative implications of the wording were manipulated such that the support provider explicitly said either that she did or did not think that the individual needed help (i.e., “I can tell that you could use some help” versus “I don’t think that you need any help”). The researchers found that support receipt was associated with the greatest increases in distress when the support provider’s statement suggested that she viewed the participant as inefficacious relative to when the statement suggested no unfavorable evaluation of the recipient. Furthermore, they found that reflected appraisals of inefficacy (i.e., the degree to which a participant felt that her partner perceived her to be struggling) mediated the relationship between support receipt and changes in

recipient distress. This study suggests that support that is interpreted as conveying the provider's negative evaluations of the recipient may lead to less favorable reactions relative to support that is non-evaluative in nature.

**Sensitivity to the evaluative potential of support.** Research suggests not only that evaluative support is less likely to be beneficial relative to non-evaluative support, but also that people are sensitive to the implications of support when making decisions regarding whether or not to seek help. The motivation to avoid anticipated threats to the self as a result of receiving help is apparent in support seeking behaviors. For example, in an experiment examining patterns of help seeking, Tessler and Schwartz (1972) manipulated the level of threat associated with support by varying the self-relevance of the task domain and the extent to which participants could attribute their need for help to either internal or external causes. The authors found that people were more likely to seek support when it was less self-threatening. This included situations in which people could attribute their failure to achieve their goal without help to external causes (which, therefore, was perceived as less indicative of personal inadequacy) and, for those high in self-esteem, when the attributes related to the need for help were less self-relevant (because such abilities are less meaningful to self-concept).

Research by DePaulo and Fisher (1980) also suggests that the psychological costs associated with support receipt influence decisions regarding whether to seek help. They used a laboratory-based study to examine how threats to self-evaluation influenced the likelihood of seeking support as a



function of the difficulty of the task and its centrality to the self. The authors predicted that less difficult tasks and those more relevant to the self would be most threatening as a result of their implications about competence. In line with their expectations, participants tended to seek help less frequently when the task was easier and when it was self-relevant (i.e., task domain was related to their area of academic study). Furthermore, those who decided to seek more assistance also indicated that they expected the support provider to deem them as less competent and felt more apprehensive about seeking help. Thus, evidence of reluctance to receive support that is expected to impact (either one's own or another's) evaluations of one's self demonstrates the costs associated with situations that hold evaluative potential. Both because concerns about negative evaluations in supportive contexts may influence willingness to receive support and because feeling unfavorably evaluated by others may contribute to negative reactions to enacted support, it is important to examine the factors that might influence this perception.

### **Attachment Style and Perceptions of Support**

Chronic beliefs related to the availability and quality of support in times of need can provide important insight into how people appraise their supportive interactions. Attachment theory (Bowlby, 1969, 1973, 1980) suggests that people are born with an innate predisposition to form attachments (or bonds) to others and that this tendency helps to ensure survival by motivating the maintenance of proximity to one's attachment figures, particularly under threat. This theory further suggests that the accumulation of experiences with one's

attachment figures give rise to internal working models (IWMs) of attachment, which encapsulate an individual's beliefs about the availability of sensitive, responsive care in times of need. These expectations are internalized in the form of mental representations that contain information both about others, including the degree to which they are trustworthy and reliable, and about the self, including the degree to which one is worthy of positive or negative treatment. Experiences of consistently sensitive and responsive care help to establish attachment security, whereby the individual comes to have confidence that good quality care will be available when needed. On the other hand, inconsistent, unresponsive, and/or rejecting behavior by caregivers contributes to attachment insecurity (Bowlby, 1969, 1973). Insecurity can manifest itself primarily in two ways. It can trigger elevated anxiety, which is related to hyperactivation of the attachment system and, consequently, overdependence and sensitivity to cues of threat. Insecurity can also be characterized by heightened levels of avoidance, which is associated with deactivation of the attachment system and, as a result, overindependence as well as lack of intimacy and self-disclosure with others (see Mikulincer & Shaver, 2007, for a review). Ultimately, the development of IWMs enables individuals to develop expectations about the availability and responsiveness of their attachment figure(s) in times of need.

Working models of attachment are believed to play an important role in the cognitive processing of social information. The expectations contained in working models act as a lens through which interactions are perceived and can influence

attention to, interpretation of, and memory for social interactions. Events are often interpreted in ways that fit with one's working models of attachment and, even when they are recognized as inconsistent with current schemas, they are generally seen as exceptions rather than the norm. Thus, internal working models contribute to appraisal tendencies as well as both emotional and behavioral reactions to one's perceived reality (Bowlby, 1969, 1980; Bretherton, 1990; Bretherton & Munholland, 2008, for a review). The attachment literature has clear implications for understanding how people respond to stress and social support because of the fact that working models of attachment contain information related to the availability and quality of others' supportive behaviors when needed.

The Experiences in Supportive Interactions model (Burke et al., 2013) hypothesizes a connection between attachment and experiences related to stress and support. Specifically, according to the model, not everyone experiences supportive interactions in the same way. Instead, individuals differ in the content of their general beliefs about self and other, which then form the basis of the information that is available to become active and consequently drive interpretations of interpersonal experiences. For this reason, appraisals of support as indicative of negative evaluations are likely to vary across individuals. As an important contributor to an individual's general and active beliefs, the ESI suggests that working models of attachment will play a significant part in shaping perceptions of and reactions to supportive interactions.

A range of research on attachment has provided evidence for the relationship between attachment beliefs and appraisals of social support. For example, research suggests that attachment quality is related to both evaluations of support availability as well as perceptions of the utility associated with seeking and receiving support (Anders & Tucker, 2000; Herzberg et al., 1999; Ognibene & Collins, 1998; Priel & Shamai, 1995; Wallace & Vaux, 1993). Evidence also links attachment style with the types of attributions that individuals make about the support they receive. In general, secure individuals tend to be more satisfied with the support they receive (Anders & Tucker, 2000; Carnelley, Pietromonaco, & Jaffe, 1996) and to attribute more positive intentions to their support providers (e.g., Collins & Feeney, 2004) compared to their insecure counterparts. Furthermore, research has also found that attachment can influence memory for past support-related experiences, and that the nature of one's emotional state during the experience as well as intervening support experiences can differentially influence memory for these events as a function of attachment style (Collins & Feeney, 2004; Simpson, Rholes, & Winterheld, 2010).

There are several reasons why attachment style may be linked to different outcomes when it comes to perceiving and reacting to supportive interactions. In adulthood, attachment style has also been associated with other psychosocial/ personality characteristics such as attributional style (Gallo & Smith, 2001), depressive symptoms (Carnelley, Pietromonaco, & Jaffe, 1994), and self-esteem (Collins & Read, 1990). Because previous work suggests that it is important to account for these factors in order to confidently assess whether differences in

attachment-related working models, rather than other psychological characteristics, are responsible for any observed attachment-related differences (see Collins, Ford, Guichard, & Allard, 2006), these factors will be accounted for in the present work.

Although past work suggests links between attachment and experiences of support, the literature has not yet examined links between attachment and the degree to which an individual feels negatively evaluated by the support provider. Because support provision generally requires that the provider observe a need for assistance, the potential for negative evaluation is inherent in support. As reviewed above, a range of research provides evidence that responses to support receipt are more negative when the support holds the potential for negative evaluations. Attachment-related cognitions may play an important role in shaping perceptions about the support provider's thoughts or impressions of the recipient. In other words, the beliefs about self and other that characterize an individual's attachment style may influence the individual's feelings of being negatively evaluated as a result of their need for assistance.

### **Attachment and Perceptions of Social Threat (and Negative Evaluation)**

The work reviewed above provides evidence to suggest both that support that has the potential to lead to negative evaluations of the recipient is related to relatively unfavorable reactions and that attachment plays a role in shaping perceptions of supportive situations. The primary focus of the present research is to examine the degree to which the attachment-related cognitions of a support

recipient may influence his or her perceptions of being negatively evaluated by a support provider during supportive interactions.

Evidence reveals that people high in attachment-related anxiety demonstrate a number of qualities that can lead to increased perceptions of threat in social interactions. These individuals demonstrate a preoccupation with their relationships, often express worries regarding their relationships and partners (Hazan & Shaver, 1987; Shaver & Mikulincer, 2007), and exhibit heightened vigilance with regard to detection of potential threats (Ein-Dor, Mikulincer, & Shaver, 2011). They also demonstrate heightened levels of rejection sensitivity (Downey & Feldman, 1996; Taubman-Ben-Ari, Findler, & Mikulincer, 2002). Because those high in attachment-related anxiety may exhibit increased anxiety regarding potential signs of rejections, attachment-related anxiety should be linked to more salient concerns about being negatively evaluated. Based on these characteristics, I propose that attachment-related anxiety will be associated with heightened sensitivity to the potential for negative evaluation in supportive contexts, and, consequently, an increased likelihood of feeling unfavorably evaluated in response to supportive actions and more negative emotional reactions to perceptions of negative evaluations by a support provider.

In contrast to the characteristics associated with attachment anxiety, individuals with high levels of attachment avoidance tend to minimize the importance of relationships and are often reluctant to depend on others (Mikulincer & Shaver, 2007). Consequently, I propose that attachment

avoidance will be unrelated to self-reported perceptions of negative evaluations. However, because avoidant individuals are generally uncomfortable relying on others and prefer to act independently, I propose that they will be more likely to perceive others' supportive behaviors as intrusive, rather than helpful.

I also anticipate that attachment-related insecurities will impact future experiences of support to the extent that anxiety and avoidance contribute to negative reactions to support receipt. Specifically, I propose that unfavorable experiences in previous supportive interactions will be associated with a reduced tendency to seek support or enter into situations likely to entail support receipt.

### **Preliminary Work**

In an effort to gain additional insights into the cognitive processes through which supportive experiences are assigned meaning and the mechanisms that drive reactions to enacted support, two pilot studies were designed to preliminarily examine hypotheses related to attachment and perceptions of negative evaluations and intrusiveness. Specifically, these pilot studies used vignettes to examine how preexisting attachment-related beliefs influenced perceptions of being negatively evaluated, perceptions of support provider intrusiveness, and corresponding emotional reactions in the context of supportive interactions. Consistent with the hypotheses outlined above, it was expected that attachment anxiety would be associated with increased perceptions of being negatively evaluated by one's support provider and more negative emotional reactions to this perception while attachment avoidance would not show this

relationship, but would instead be related to increased perceptions of supportive behavior as intrusive.

In the two studies, individuals from both the Lehigh student population (Preliminary Study 1;  $N = 57$ ) and those recruited via Amazon's Mechanical Turk (Preliminary Study 2;  $N = 77$ ) completed measures of attachment security and then were asked to read five vignettes while imagining themselves in each situation (see Appendix A for vignettes). Each vignette described a situation in which another person provided some degree of help to the individual imagining him- or herself in the situation. After reading each vignette, participants were asked to answer several questions about their thoughts and opinions related to the situation described, including ratings of the extent to which they would expect to feel negatively evaluated by the support provider within the situation, anticipated emotional responses to the interaction, and the degree to which they believed the provider's behavior was intrusive in nature.

Both preliminary studies provided partial support for the hypotheses. As expected, analyses revealed a significant main effect of attachment anxiety across both studies such that greater levels of anxiety were associated with increased perceptions of being negatively evaluated (see Figure 2). It was further predicted that attachment anxiety would be related to more negative emotional reactions in response to the perception of being negatively evaluated by the interaction partner (i.e., support provider). This was examined in terms of both negative personal emotions and negative emotions about the relationship between oneself and the interaction partner. The findings for both personal and



relational emotions revealed partial support for the predicted interaction between attachment anxiety and perceptions of negative evaluations in predicting more negative emotions. With regard to personal emotions, although Preliminary Study 1 findings did not demonstrate the hypothesized interaction (see Figure 3a), Preliminary Study 2 suggested a marginal interaction between attachment anxiety and negative evaluations in the predicted direction (see Figure 3b). With regard to relational emotions, Preliminary Study 1 revealed a significant interaction between attachment anxiety and negative evaluations (see Figure 4a) such that those who were higher on anxiety tended to have more negative emotions about their relationship with their interaction partner in response to perceptions of being negatively evaluated by that person. However, Preliminary Study 2 revealed no such interaction (see Figure 4b). Additionally, it was expected that those high on avoidance would be more likely to perceive supportive behavior as intrusive. This was partially supported by a marginally significant main effect of avoidance in the predicted direction found in Preliminary Study 1 (see Figure 5a), but the findings of Preliminary Study 2 did not provide support for this prediction (see Figure 5b).

The two preliminary studies reviewed here provide partial support for the hypotheses predicted by the present work. However, one reason for the inconsistent results of this previous work may be that these studies were underpowered. If the preliminary work had included larger samples, we may have observed findings more consistent with the anticipated results. In order to address this potential issue, the studies included in the present work have

substantially larger samples. Increasing the sample size is particularly important to ensure maximum variability on the attachment anxiety and avoidance dimensions and to increase the power to detect the hypothesized effects.

These preliminary studies were limited in several other important ways that the present research aims to address. The preliminary studies focused on support behaviors that were both hypothetical and isolated, which is generally inconsistent with how support unfolds in everyday life. The present work incorporates support behaviors embedded in an ongoing situation with a sequence of interrelated hypothetical scenarios, enabling assessment of how support experiences influence decisions and reactions related to support receipt in subsequent interactions. Furthermore, the present work includes an actual (rather than hypothetical) support experience (Study 2), allowing insight into not only the expectations that individuals have about supportive interactions but also gauging the nature of these experiences in real-life situations. Finally, the preliminary studies did not manipulate whether support was given in each vignette, which leaves open the possibility that the observed results were influenced by other aspects of the vignettes besides the support behavior. The present work manipulates the presence of support to address this issue.

### **The Present Work**

Although the preliminary work provided some support for the predictions about the relationship between attachment and perceptions of supportive interactions, it leaves much more work to be done. In order to contribute to a better understanding of the mechanisms that drive reactions to enacted support,

the purpose of this dissertation is to examine the role of attachment in shaping perceptions of unfavorable evaluations within supportive interactions, and the emotional and behavioral reactions associated with these perceptions. Notably, my approach, unlike much of the research on enacted support, which generally examines supportive events as isolated occurrences,<sup>2</sup> examines the interrelations amongst support experiences at several points in the process, from expectations about support, to perceptions of actual instances of receipt, to the impact of previous experiences on subsequent cognitions and decisions about support, and, finally, memory for support over time. I present two multi-part studies in this dissertation to examine these issues.

The goal of the first study is to assess the influence of attachment on expectations that support will result in negative evaluations and the degree to which this affects anticipated emotions and the desire to receive subsequent support. Understanding expectations about support receipt is important because the anticipated experience of negative outcomes may inhibit individuals from seeking and/or accepting help, even when it could be beneficial. Study 1 examines expectations about support using a series of hypothetical events involving supportive interactions with a number of providers over the course of a day. Of particular interest are participants' evaluations of their interactions, anticipated emotional experiences, and support seeking decisions in response to a (hypothetical) stressful event.

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<sup>2</sup> There are exceptions that consider the interactions between different parts of the support process, such as Collins & Feeney (2000), which examines the interplay amongst support seeking and caregiving behaviors.

Study 2 complements Study 1 by examining the relationship between attachment, perceptions of being negatively evaluated, and emotional and behavioral reactions in an actual supportive situation. This approach is critical in order to assess whether the outcomes that people anticipate reflect their actual experiences. This work also assesses the impact of attachment on memories of past support behaviors. Study 2 is a two-part study completed online in which participants ostensibly work with another individual while reporting their perceptual and emotional experiences following a partner-based task, and subsequently indicate their preference to take part in either another partner-based activity or to work alone (Part 1). Part 2 of this study assesses memory of supportive experiences by unexpectedly asking participants to recall their perceptions of the previous support that took place 5-7 days earlier.

Based on the above discussion, across the two studies I test the following

**General Hypotheses:**

- 1) Individuals high in attachment-related anxiety will be more sensitive to the potential for negative evaluation in supportive contexts. Therefore, these individuals will be: a) more likely to feel negatively evaluated in such situations and b) will display more negative emotions in response to perceptions of unfavorable evaluations by a support provider.
- 2) Attachment-related avoidance will be unrelated to self-reported perceptions of negative evaluations. However, because avoidant individuals are generally uncomfortable relying on others and prefer to act independently, avoidance will be positively associated with perceptions of

supportive behaviors as intrusive and negatively associated with assessments of helpfulness.

- 3) As a part of the support process, previous experiences of support will impact later support decisions. The more negative perceptions that people experience in response to support (i.e., negative evaluations, negative emotions, appraisals of interaction partner as intrusive), the more likely they are to avoid it in the future.
- 4) Building on past work that provides evidence that attachment style influences memory of support behaviors, it is further expected that attachment-related beliefs will also shape memory related to perceptions of feeling negatively evaluated during supportive interactions, emotions experienced in response to the interaction, and interpretations of the event as intrusive versus helpful. Specifically, it is anticipated that the impact of both attachment-related dimensions (i.e., anxiety and avoidance) will be compounded over time such that memory processes will increase the hypothesized relationships between attachment anxiety and perceptions of negative evaluations and negative emotions as well as the relationship between attachment avoidance and perceptions of support behaviors as more intrusive and less helpful. In other words, responses will become more prototypic of attachment style over time.

The model that illustrates these hypotheses can be seen in Figure 6.

## Chapter 2: Study 1

### Overview

The main goal of Study 1 was to assess how attachment-related beliefs influence expectations of being negatively evaluated in a supportive interaction and the anticipated emotional and behavioral responses associated with such appraisals. It also assessed how the perceptions of being negatively evaluated and emotional reactions influenced one's desire and/or willingness to receive support in subsequent situations. The goals of this study were pursued through the use of a vignette that described a set of four interrelated hypothetical events unfolding over the course of a single day – namely, a stressful situation or difficulty (that is accompanied by support for those in the support condition), a loving act, another difficulty accompanied by support (for all participants), and a decision about whether and from whom to seek support in response to a final difficulty. Together, these four components aimed to clarify how attachment style impacts perceptions of and reactions to supportive interactions, both after one instance and multiple instances of support, and provides insight into how previous reactions to supportive events shape desires to receive help when one has the option to seek or avoid support.

### Method

**Participants.** Four hundred and twelve individuals recruited through Amazon's Mechanical Turk (228 women and 183 men, 1 person chose not to report,  $M_{age} = 34.9$  years,  $SD_{age} = 11.3$ ) completed this study. After excluding

individuals who did not pass the attention verification questions<sup>3</sup> (and one individual whose responses suggested that he did not take the study seriously), analyses were run on 395 participants (220 women and 174 men, 1 person chose not to report,  $M_{age} = 35.1$  years,  $SD_{age} = 11.3$ ).<sup>4</sup> Participants received \$1.50 USD as compensation for their time.

### **Measures.**

**Attachment.** The Experiences in Close Relationships-Revised Questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000; See Appendix B) was used to assess attachment-related anxiety and avoidance. The ECR-R is a 36-item measure that asks individuals to rate the degree to which they agree with a number of statements about their emotionally intimate relationships. Items were rated on a 7-point scale from “strongly disagree” to “strongly agree.” The ECR-R contains two subscales: anxiety (Cronbach’s  $\alpha = .96$ ) and avoidance (Cronbach’s  $\alpha = .96$ ).

**Other Evaluation.** Perceptions of being negatively evaluated by the support provider were assessed during the vignette portion of the study using the following question directly addressing the participant’s beliefs about their support

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<sup>3</sup> All attention verification questions included in the present studies simply requested that the participant choose a specific response as an answer to that item (e.g., “Please click Strongly Disagree to verify your attention.”).

<sup>4</sup> T-tests were carried out to compare individuals who were included in the analyses to those who were excluded on the following variables: gender, age, attachment anxiety, attachment avoidance, pessimistic attributional style, depression, and self-esteem. The results revealed that the only significant difference between excluded and included individuals occurred with regard to the measure of depression, with excluded individuals being higher than included ones on this variable.

provider's view of them: "To what extent would you feel that the other person thinks less highly of you as a result of this series of events?" Responses to this question were gauged using a visual analog scale ranging from "not at all" to "extremely" with a midpoint at "moderately." Additionally, participants were asked to directly assess the fit between the provider's perceived evaluations and their own beliefs about themselves by asking them to respond to the following question, "To what extent would you think that the other person's view of you is accurate?" Responses to this question were gauged using a visual analog scale ranging from "he/she viewed me in a less favorable light than is accurate" to "he/she viewed me in a more favorable light than is accurate" with a midpoint at "he/she viewed me accurately."

***Assessments of the provider.*** In order to understand how individuals view the support-relevant behaviors of their interaction partner, participants were asked to assess both the helpfulness and the intrusiveness of the support provider at different points throughout reading the vignettes. The questions included: "To what extent would you feel that the other person behaved in a helpful manner?" and "To what extent would you think the other person's actions were interfering or intrusive?" Participants were asked to respond to each of these questions using a visual analog scale ranging from "not at all" to "extremely."

***Assessments of the interaction.*** Satisfaction with self, other, and the interaction in general, as a result of the given interaction were assessed directly following each vignette. Participants were asked to respond to each of the



following questions: “To what extent would you feel satisfied with this series of events, in general?”, “To what extent would you feel satisfied with yourself as a result of this series of events?”, “How satisfied with the other person would you feel?” (using a visual analog scale ranging from “extremely dissatisfied” to “extremely satisfied”), and “To what extent do you think that the other person’s actions would help reduce your stress in the given situation?” (using a visual analog scale ranging from “not at all” to “extremely”). This measure is not included in the analyses presented in this dissertation.

***Emotional reactions.*** Both personal emotions and emotions related to one’s relationship were assessed during the storyline directly after relevant parts of the vignettes. Participants were asked to indicate the extent to which they would expect each emotional state to change in response to the relevant interaction on a 7-point scale ranging from “much less” to “much more.” Personal emotions included: sad, happy, angry, proud, confident, anxious, frustrated, content, energized, and incapable. Relational emotions included: misunderstood, secure, valued, accepted, supported, loved, inadequate, dependent, inferior, and indebted (see Appendix B). These emotions were chosen to represent a range of feelings that could reasonably be expected to occur in response to different experiences of interpersonal interactions. For the purposes of the present work, I focus on an aggregate measure of negative emotions that includes the following: sad, angry, anxious, frustrated, incapable, misunderstood, inadequate, dependent, inferior, and indebted. Overall measures of negative and positive emotion both demonstrated high reliabilities, with

Cronbach's alphas ranging from .83 to .92 across the different valences and vignettes. Because I do not have any specific predictions related to positive emotions, I do not discuss them further in the present document.

***Covariates and additional measures.*** Research suggests that attachment is linked to a number of psychosocial, personality, and mood characteristics including attributional style (Gallo & Smith, 2001), depressive symptoms (Carnelley et al., 1994), and self-esteem (Collins & Read, 1990). For this reason, previous work, including that performed by Collins and colleagues (2006), argues that it is critical to account for these variables in order to differentiate the effects of attachment from other individual differences that are often correlated with attachment. Consistent with the work of Collins et al. (2006), several personality and mood variables, including attributional style, depressed mood, and self-esteem, were also measured and taken into account as covariates in order to be sure that any attachment-related differences suggested by the findings of this work cannot be explained by these more general factors. In addition to these measures, relationship satisfaction in participants' current or most recent romantic relationship was also taken into account to control for the possibility that this might influence perceptions of vignettes involving interactions with a significant other. Covariate measures were administered prior to the vignette task. Additionally, questions aimed at assessing relationship threat were also included amongst those assessing reactions to support in order to anticipate the possibility of certain alternative

explanations related to possible findings. Each of these measures is described in more detail below.

*Attributional style.* Two items from Whitley's (1991) Short Form of the Expanded Attributional Style Questionnaire (ASQ-S; See Appendix B) were used to assess attributional style. The ASQ-S includes different scenarios that represent a range of events that occur in day-to-day life. For each situation, individuals were asked to describe the single major cause of the event and then to respond to three questions about the cause of the event (related to views of internality, stability, and globality) and one about the role of the situation, all answered along a 7-point Likert scale. Because both of the need to keep the measure brief and because items that are related to affiliation are most relevant to the present work, only the two items that are explicitly affiliative in nature were included for the purposes of the present work.

*Depressed mood.* Depressive symptomatology was assessed using the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977; See Appendix B). This scale is a self-report measure of depression that asks individuals to indicate the frequency with which they have experienced a number of symptoms related to depression using a 4-point scale from "Rarely or None of the Time (Less than 1 Day)" to "Most or All of the Time (5-7 Days)." Scores for each item can range from 0 to 3 depending on the frequency. Once reversed items are adjusted, total scores for the scale can range from 0 to 60 with higher scores indicating more elevated levels of depressive symptoms. Reliability for this scale was high in the current study (Cronbach's  $\alpha = .93$ ).

*Self-esteem.* The Rosenberg Self-Esteem Scale (Rosenberg, 1965; See Appendix B) was used to assess global self-worth. This is a 10-item measure that asks individuals to respond to a scale by rating how much they agree with both positive and negative statements about themselves using a 4-point scale from “strongly agree” to “strongly disagree.” Once reverse-scored items are adjusted, values for all ten items are summed with increasing scores being indicative of higher self-esteem. This scale demonstrated high reliability (Cronbach’s  $\alpha = .94$ ).

*Relationship satisfaction.* Because individuals may take into account their romantic relationships when imagining the scenarios involving significant others, perceptions of hypothetical interactions involving significant others may be impacted by one’s current or recent close relationships. In order to control for this possibility, individuals were asked to indicate whether they were currently in a relationship or had ever been in one before and then to respond to the 3-item Index of Relationship Satisfaction used by Collins and Feeney (2004) with regard to their current or most recent relationship (for those that had been involved in one before). The items were rated along a 7-point scale and included: “All things considered, how happy are you in your relationship?”, “All things considered, how satisfied are you in your relationship?”, and “Overall, how good is your relationship?” This measure demonstrated high reliability both for those answering with regard to a current or previous (i.e., most recent) relationship (Cronbach’s  $\alpha = .96$  for both).

*Relationship threat.* In order to assess whether reactions to perceived negative evaluations by one's support provider are related to a perception that the relationship may be threatened, participants were asked to respond to the following items following the vignettes using a visual analog scale ranging from "not at all" to "extremely": "To what extent would you think this situation might negatively impact your relationship with the other individual?", "To what extent would you think that this series of events would make you feel less secure in your relationship with this person?" and "To what extent would you feel that this series of events would contribute to weakening your relationship with this person?" This measure is discussed only briefly where it provides additional value to the discussion.

**Procedure.** This study was conducted using Qualtrics Survey Software through a link provided to eligible participants via Amazon's Mechanical Turk. Participants began the study by completing a number of questionnaires assessing several mood and personality factors. Next, they completed an assessment of attachment style. After this, participants were asked to read through an ongoing vignette outlining a series of interactions (see Appendix C for vignette) while imagining themselves in the situations described. The storyline described a sequence of four events occurring within the context of a single day. Each part of the storyline was designed to tap into distinct components of the process of interest, including challenges that led to instances of support receipt as well as a decision indicating willingness to receive support from a variety of potential providers.

Part 1 of the vignette presented a scenario that involved running late for work on the day of an important project and subsequently receiving support (or not, for those in the no support condition) from one's significant other in the form of making coffee and fueling the car while the individual was getting ready so that he/she would be able to drive the car (rather than taking the bus as usual) in order to get to work more quickly. The purpose of Part 1 was to provide a replication of the pilot studies by observing responses to a single supportive behavior from a loved one. It also included an experimental manipulation to clarify the influence of support per se: half of the participants experienced the same stressor without the supportive behavior. An important consideration in developing this portion of the vignette was to avoid a situation that would be likely to engender social comparison processes, as this would provide an alternative mechanism that could potentially be responsible for feelings of inferiority or negative reactions to support. For this reason, this stressor was designed to be one that should be low in self-relevance and the help was designed to avoid suggesting superior abilities on the part of the provider. Furthermore, the specific support behavior involved fueling the individual's car rather than offering the significant other's own vehicle, which would have affected his/her ability to help and culpability for the predicament (i.e., car breaking down) presented in Part 4.

Part 2 involved experiencing a loving act when one finds a treat and affectionate note packed into his/her lunch by the partner. The purpose of the loving act was to break up the series of stressful experiences in the sequence of events depicted in the vignette, but it also provided an opportunity to explore

whether individuals respond similarly to loving acts as they do to supportive ones. Because loving acts, like supportive ones, are positive interpersonal behaviors, but differ from support in that they are not triggered by a perceived need on the part of the recipient, they may be less likely to give rise to appraisals centered around one's perceived shortcomings in accomplishing a task independently.

Part 3 of the storyline involved having difficulty on a work project and receiving support from a coworker in the form of brainstorming some solutions to the issues. The purpose of Part 3 was to examine how individuals experience a second instance of support when it comes from a separate individual whose behaviors were unrelated to the first supportive interaction. The decision for the support provider in the second instance of enacted support to be a coworker was based on the desire to examine the support process with regard to different support providers and contexts.

Following each of the first three parts of the storyline, individuals were asked a number of questions about their thoughts related to the situation. Of central concern to this study, participants were asked to make ratings about the support provider (including the support recipient's perceptions about the provider's evaluation of them and their perceptions of the provider's behavior) and the interaction as well as to report the emotional reactions that they would expect to experience in response to the interactions.

In Part 4 of the vignette, participants were presented with a stressful situation in which support would be beneficial in resolving their difficulty.

Specifically, the scenario depicted circumstances under which the individual was stranded due to car trouble, and participants were asked to make a decision about how to respond by indicating the relative likelihood with which they would seek help from a number of different sources. Possible behavioral responses to the experience included seeking help from individuals from whom they had previously received support (i.e., significant other, coworker), another source (i.e., friend or taxi), or not requesting any support at all (i.e., walking home). Using an ongoing storyline rather than separate vignettes describing unrelated situations enabled examining how earlier experiences shape later ones. Examining the propensity to seek support from a variety of others as was done here was intended to clarify whether negative experiences in supportive interactions influence support seeking behaviors and whether the effects, if any, are specific to the provider or generalize to a broader range of possible support providers.

## **Results**

The general goal of this study was to investigate how attachment influences expectations for and perceptions of supportive interactions. In most cases, regression analyses were performed to examine perceptions of supportive interactions as a function of levels of attachment-related anxiety and avoidance using the GLM procedure of SAS statistical software (SAS Institute Inc., 2013) with a significance level of 0.05. Wherever the attachment-related dimensions were included amongst the predictor variables, their interaction was always incorporated into the analyses in order to recognize the possibility of categorical



differences between different combinations of high and low levels of each. Analyses controlled for the following covariates: attributional style, depressed mood, self-esteem, and relationship satisfaction (in analyses for Vignettes 1 and 2 only). Predictor variables (except for ratings of change in emotion, whose midpoint at 0 represents no change in emotion) were centered on the mean prior to analyses so that the reported effects are interpretable for someone who is average on the other predictor variables.

In presenting the results of the studies included in this dissertation, I focus on reporting the significant effects of the predictor variables and include nonsignificant effects only when specifically relevant to the hypotheses. Likewise, for clarity of presentation, I will not be reporting tests of the covariates in the results that follow. Descriptive statistics that provide more information regarding sample characteristics for Study 1 are presented as a correlation matrix in Table 1.

**Part 1.** In Part 1 of the vignettes, it was predicted that attachment anxiety would be associated with increased expectations of feeling negatively evaluated in response to the supportive interaction (Hypothesis 1a) and an increased association between anticipated negative evaluations and negative emotions (Hypothesis 1b). It was also expected that attachment avoidance would be associated with increased ratings of the support provider's behaviors as intrusive and decreased ratings of helpfulness (Hypothesis 2).

***Negative Evaluations.*** In order to examine the prediction that attachment anxiety leads to a heightened sensitivity to perceiving negative evaluations

(Hypothesis 1a), I regressed ratings of feeling negatively evaluated on support condition, attachment anxiety, and avoidance, including all possible interactions, adjusting for the following covariates: attributional style, depressed mood, self-esteem, and relationship satisfaction. The results revealed the predicted main effect of anxiety on perceptions of being negatively evaluated ( $b = 2.93$ ,  $t(361) = 2.20$ ,  $p = .028$ ,  $\eta_p^2 = 0.013$ ) such that greater anxiety was associated with expectations of more negative evaluations. The findings also demonstrated a significant main effect of support condition ( $b = -10.41$ ,  $t(361) = -3.72$ ,  $p < .001$ ,  $\eta_p^2 = 0.037$ ) such that support was associated with lower levels of perceived negative evaluations. These effects were qualified by a significant three-way interaction between anxiety, avoidance, and support ( $b = 3.37$ ,  $t(361) = 2.30$ ,  $p = .022$ ,  $\eta_p^2 = 0.014$ ). Follow-up analyses examining each condition separately revealed that there were no significant effects in the support condition. In the no support condition, there was a significant positive main effect of anxiety ( $b = 4.38$ ,  $t(179) = 2.10$ ,  $p = .037$ ,  $\eta_p^2 = 0.024$ ) and this effect was qualified by a two-way interaction between anxiety and avoidance ( $b = -2.64$ ,  $t(179) = -2.24$ ,  $p = .027$ ,  $\eta_p^2 = 0.027$ ) such that the positive relationship between anxiety and negative evaluations was attenuated as levels of avoidance increased. (See Figure 7.) Overall, this analysis provided support for Hypothesis 1a by showing that attachment-related anxiety predicted increased perceptions that one's interaction partner would think less highly of them as a result of the interaction.

**Negative Emotions.** To determine whether attachment anxiety was associated with more negative emotional reactions to the perception of being

negatively evaluated (Hypothesis 1b), I regressed anticipated change in negative emotions on attachment anxiety, avoidance, feelings of being negatively evaluated and support condition, including interactions between these variables in these analyses, controlling for ratings of intrusiveness, attributional style, depressed mood, self-esteem, and relationship satisfaction. It was hypothesized that there would be a significant interaction between attachment anxiety and perceived negative evaluations on anticipated changes in negative emotions, such that those high on attachment anxiety would experience more negative emotional reactions in response to perceptions of being unfavorably evaluated.

Findings indicated a significant main effect of support such that those who received support tended to anticipate less negative emotion ( $b = -0.32$ ,  $t(352) = -3.32$ ,  $p = .001$ ,  $\eta_p^2 = 0.030$ ). There was also a significant main effect negative evaluation such that with increasing expectations of negative evaluations, participants tended to also anticipate experiencing more negative emotions overall ( $b = 0.01$ ,  $t(352) = 3.31$ ,  $p = .001$ ,  $\eta_p^2 = 0.030$ ). These effects were qualified by a two-way interaction between support condition and negative evaluations ( $b = 0.01$ ,  $t(352) = 2.77$ ,  $p = .006$ ,  $\eta_p^2 = 0.021$ ). Follow up analyses revealed that the positive main effect of negative evaluations was significant only in the support condition ( $b = 0.01$ ,  $t(173) = 3.48$ ,  $p < .001$ ,  $\eta_p^2 = 0.066$ ). There was also a two-way interaction between anxiety and avoidance predicting negative emotions ( $b = -0.07$ ,  $t(352) = -2.81$ ,  $p = .005$ ,  $\eta_p^2 = 0.022$ ) such that the relationship between anxiety and anticipated changes in negative emotions became more negative as levels of avoidance increased. (See Figure 8.)

Inconsistent with the predictions, there was not a significant interaction between perceived negative evaluations and anxiety for overall negative emotions ( $b = -0.00$ ,  $t(352) = -0.70$ ,  $p = .485$ ,  $\eta_p^2 = 0.001$ ).

***Intrusiveness and helpfulness.*** To examine whether attachment avoidance was related to increased perceptions of support as intrusive (Hypothesis 2), I performed regression analyses with support condition, attachment anxiety, and avoidance, including all possible interactions, predicting ratings of the support provider's behavior as intrusive. Results revealed a significant, positive main effect of attachment avoidance on ratings of support provider behavior as intrusive ( $b = 2.45$ ,  $t(361) = 2.01$ ,  $p = .045$ ,  $\eta_p^2 = 0.011$ ). This finding supports Hypothesis 2 by showing that as levels of attachment-related avoidance increased, people tended to rate their interaction partner as more intrusive. The main effect of avoidance was qualified by a significant two-way interaction between anxiety and avoidance ( $b = -1.71$ ,  $t(361) = -2.59$ ,  $p = .010$ ,  $\eta_p^2 = 0.018$ ) such that the positive relationship between avoidance and ratings of intrusiveness was attenuated as levels of attachment anxiety increased. (See Figure 9.) In addition to these effects, the analyses also revealed a main effect of support condition such that those in the condition where the vignette included support behaviors by one's significant other rated their interaction partner as less intrusive ( $b = -11.31$ ,  $t(361) = -4.47$ ,  $p < .001$ ,  $\eta_p^2 = 0.053$ ).

To examine whether increasing avoidance was related to perceptions of the support provider's behaviors as less helpful, I performed regression analyses

with support condition, attachment anxiety and avoidance, and all possible interactions, predicting ratings of the support provider's behavior as helpful. Results revealed a significant, negative main effect of attachment avoidance on ratings of support provider behavior as helpful ( $b = -2.57$ ,  $t(361) = -2.19$ ,  $p = .029$ ,  $\eta_p^2 = 0.013$ ), demonstrating that as levels of attachment-related avoidance increased, people tended to rate their interaction partner as less helpful. As would be expected, there was also a main effect of support ( $b = 51.49$ ,  $t(361) = 21.20$ ,  $p < .001$ ,  $\eta_p^2 = 0.552$ ) such that those in the support condition rated their interaction partner as more helpful than those whose vignettes did not depict supportive behaviors by the interaction partner. No other effects were significant in this analysis. Thus, as expected, the findings for these analyses together suggest that individuals high in avoidance, who generally prefer to maintain interpersonal distance, perceived their interaction partners' behaviors in ways consistent with this preference, viewing them as both as more intrusive and less helpful.

**Part 2.** Part 2 of the vignettes involved a loving act rather than a supportive behavior. The purpose of this vignette was primarily to break up the other supportive actions and to add to the storyline. However, exploratory analyses were performed to examine whether attachment style influences perceptions of and reactions to loving acts in a similar way as it does to enacted support. From an attachment perspective, it could be anticipated that attachment-related beliefs form expectations specifically related to the availability and quality of help in times of need (or threat). However, it is also possible that

attachment beliefs may play a role in influencing perceptions of interactions more generally, especially in a context that involves activation of these beliefs amongst interactions with a close other.

In order to explore whether reactions to loving acts are driven by similar mechanisms to those that shape responses to supportive interactions, the same analyses performed for responses to Part 1 of the vignettes were repeated for Part 2 with the only difference being that support condition was not included in the analyses for this part since all participants read about the same loving act.

**Negative Evaluations.** In order to examine whether attachment anxiety was associated with a heightened sensitivity to perceiving negative evaluations in the context of the loving act scenario, I repeated the analysis described above for Part 1 (but without including support condition since all participants read about the same situation in this part). There was no significant main effect of attachment anxiety ( $b = 0.482$ ,  $t(365) = 0.31$ ,  $p = .760$ ,  $\eta_p^2 = 0.000$ ) but the results demonstrated a significant effect of attachment avoidance on feeling negatively evaluated ( $b = 4.07$ ,  $t(365) = 2.55$ ,  $p = .011$ ,  $\eta_p^2 = 0.017$ ) such that greater levels of avoidance were related to being more likely to perceive negative evaluations on the part of the person who committed the loving act. No other significant effects were found.

**Negative Emotions.** An examination of whether attachment anxiety was associated with more negative emotional reactions to the perception of being negatively evaluated did not reveal evidence to support the predicted interaction

between anxiety and negative evaluations ( $b = 0.002$ ,  $t(360) = 1.37$ ,  $p = .172$ ,  $\eta_p^2 = 0.005$ ). No other effects approached significance either.

***Intrusiveness and helpfulness.*** To examine whether avoidance was associated with greater perceptions of intrusiveness by one's significant other in the loving act scenario, I regressed ratings of intrusiveness on anxiety and avoidance, including their interaction, while controlling for pessimistic attributional style, depressive symptoms, self-esteem, and relationship satisfaction. The findings revealed positive main effects of avoidance ( $b = 2.49$ ,  $t(365) = 2.19$ ,  $p = .029$ ,  $\eta_p^2 = 0.013$ ) as well as anxiety ( $b = 2.87$ ,  $t(365) = 2.55$ ,  $p = .011$ ,  $\eta_p^2 = 0.018$ ). This indicates that increasing levels of both attachment-related anxiety and avoidance were associated with perceiving the loving act as more intrusive.

Examining the degree to which the significant other's loving act was perceived as helpful, I repeated the analysis for intrusiveness with ratings of helpfulness. Findings revealed that avoidance was not significantly related to ratings of helpfulness ( $b = -1.54$ ,  $t(365) = -1.59$ ,  $p = .112$ ,  $\eta_p^2 = 0.007$ ).

**Part 3.** In Part 3 of the vignettes, it was again expected that attachment anxiety would be associated with increased ratings that one would expect to feel negatively evaluated in response to the supportive interaction (Hypothesis 1a) and an increased association between anticipated negative evaluations and negative emotions (Hypothesis 1b). It was also predicted that attachment avoidance would be associated with increased ratings of the support provider's behaviors as intrusive (Hypothesis 2).

In order to test the predictions related to Hypotheses 1a, 1b, and 2, the analyses used for Part 1 were repeated with the only differences being that these analyses did not include support condition (since all participants read about the same scenario, which involved support) and they did not control for relationship satisfaction in one's current or most recent romantic relationship, as this should be relevant only for interactions imagined to occur with one's significant other (and the scenario in Part 3 involves an interaction with a coworker).

**Negative Evaluations.** To examine whether attachment anxiety was associated with increased expectations of feeling negatively evaluated in response to the supportive interaction with a coworker, I regressed anticipated perceptions of feeling negatively evaluated on attachment anxiety and avoidance as well as their interaction, controlling for attributional style, depressed mood, and self-esteem. The results did not demonstrate support for the hypothesis (main effect of anxiety:  $b = 1.23$ ,  $t(388) = 0.98$ ,  $p = .327$ ,  $\eta_p^2 = 0.003$ ), as there were no significant effects of the attachment dimensions.

**Negative Emotions.** Analyses mirroring those performed in Part 1 (with the only differences being those listed above) to examine Hypothesis 1b were repeated for this part of the vignette to investigate whether the interaction between perceived negative evaluations and attachment anxiety predicted negative emotional reactions. The results did not reveal evidence of the hypothesized interaction between anxiety and negative evaluations in predicting anticipated negative emotions in this scenario ( $b = -0.00$ ,  $t(383) = -0.05$ ,  $p = .963$ ,  $\eta_p^2 = 0.000$ ). Nonetheless, there was a significant three-way interaction between



negative evaluations, anxiety, and avoidance in predicting overall negative emotion ( $b = 0.002$ ,  $t(383) = 2.99$ ,  $p = .003$ ,  $\eta_p^2 = 0.023$ ). However, follow up analyses did not reveal a significant interaction between negative evaluations and anxiety for either those low or high on avoidance. Therefore, the findings did not provide support the hypothesis that increasing anxiety would be related to more negative emotion in response to the perception of negative evaluations.

***Intrusiveness and helpfulness.*** To examine whether avoidance predicted perceptions of behaviors as more intrusive, I regressed ratings of intrusiveness on attachment anxiety and avoidance, including their interaction, and controlling for pessimistic attributional style, depressive symptoms, and self-esteem. The findings demonstrated a positive main effect of avoidance ( $b = 2.92$ ,  $t(388) = 2.58$ ,  $p = .010$ ,  $\eta_p^2 = 0.017$ ), consistent with the predicted role of avoidance in leading to higher levels of perceived intrusiveness. This effect was qualified by an interaction between anxiety and avoidance ( $b = -1.46$ ,  $t(388) = -2.25$ ,  $p = .025$ ,  $\eta_p^2 = 0.013$ ) such that the positive relationship between avoidance and ratings of intrusiveness was attenuated as levels of anxiety increased. (See Figure 10.)

I also repeated the above analysis for intrusiveness for ratings of helpfulness. The results revealed a significant negative main effect of avoidance in predicting perceived helpfulness ( $b = -3.89$ ,  $t(387) = -4.30$ ,  $p < .001$ ,  $\eta_p^2 = 0.046$ ), suggesting that increasing levels of avoidance were associated with a reduction in ratings of partner behavior as helpful. There were no other significant effects.

**Part 4.** In Part 4 of the vignettes, individuals were asked to indicate the relative likelihood of seeking help from a number of different individuals when faced with a stressful situation. The purpose of this part of the study was to examine how past supportive experiences influence subsequent support seeking. It was expected that the more negative reactions that an individual had to a previous instance of support from a given person, the less likely he or she would be to seek support from that individual in response to subsequent support needs (Hypothesis 3).

Because the outcome variables here are likelihood values bounded by the range 0 to 100, analyzing them presents some of the same challenges as binary data (e.g., non-normality). In that case, logistic regression is often used, which applies a transformation (known as the logit transformation<sup>5</sup>) to the outcome variable to create a more normal distribution of values. Applying this kind of transformation is especially important for values close to the floor or ceiling of the range, which is true for several of the response options presented here. Therefore, before analyzing the data, I first manually transformed the data with a logit transformation in order to adjust for skewed sampling distributions related to the low means for some options. I then analyzed the transformed data using the GLM procedure in SAS.

I ran five separate analyses with perceptions of being negatively evaluated, perceptions of partner intrusiveness, and negative emotions (analyses

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<sup>5</sup> The logit transformation is done by taking the natural log of the odds, where the odds is defined as the probability of event occurrence divided by the probability of event non-occurrence. The logit transformation looks like a flattened “s” curve.

included the listed variables from both Part 1 and Part 3 support scenarios), as well as support condition and each predictor's interactions with support condition, predicting willingness to request support from each of the five possible choices for seeking support. Any significant, negative effect of the predictor variables (i.e., perceptions of negative evaluations, views of the other person's behavior as intrusive, and negative emotional reactions) *that relate to the specific support provider* (i.e., Part 1 for significant other and Part 3 for coworker) on willingness to seek support from that person provides support for Hypothesis 3. Table 2 presents the means and standard deviations for each of the possible support seeking choices on the original 0-100 scale.

**Significant other.** Analyses examining the relative willingness to seek support from one's significant other revealed that greater significant other intrusiveness ratings from Part 1 were linked to decreased support seeking from the significant other ( $b = -0.02$ ,  $t(345) = -4.29$ ,  $p < .001$ ,  $\eta_p^2 = 0.051$ ). This effect was qualified by a two-way interaction between support and intrusiveness ( $b = -0.02$ ,  $t(345) = -2.35$ ,  $p = .019$ ,  $\eta_p^2 = 0.016$ ). Follow up analyses revealed that the negative effect of intrusiveness was significant in the support condition ( $b = -0.03$ ,  $t(174) = -4.03$ ,  $p < .001$ ,  $\eta_p^2 = 0.085$ ), but did not reach significance in the no support condition ( $b = -0.01$ ,  $t(171) = 1.67$ ,  $p = .097$ ,  $\eta_p^2 = 0.016$ ).

Additionally, there was also an unexpected positive effect of negative emotion, suggesting that ratings of more negative anticipated emotional reactions to Part 1 were associated with an increased likelihood of seeking support from one's significant other ( $b = 0.23$ ,  $t(345) = 2.51$ ,  $p = .012$ ,  $\eta_p^2 = 0.018$ ). In order to

better understand this finding, I examined the effect of negative emotion in each support condition separately.<sup>6</sup> The results revealed that the effect of negative emotion in predicting an increased likelihood of seeking support from one's significant other approached significance in the no support condition ( $b = 0.26$ ,  $t(171) = 1.90$ ,  $p = .059$ ,  $\eta_p^2 = 0.21$ ), but was nonsignificant in the support condition ( $b = 0.19$ ,  $t(174) = 1.67$ ,  $p = .096$ ,  $\eta_p^2 = 0.016$ ). While not conclusive, this pattern of findings suggests that the positive effect of negative emotion on decisions to get help from the significant other may be driven by the no support condition. Thus, it is possible that negative reactions to the absence of support might drive the increased desire to subsequently receive support from a significant other.

There was also a significant interaction between Part 1 support condition and ratings of coworker intrusiveness in Part 3 ( $b = 0.02$ ,  $t(345) = 2.25$ ,  $p = .025$ ,  $\eta_p^2 = 0.015$ ). The effect of coworker intrusiveness in Part 3 was not significant for either those who received support in Part 1 ( $b = 0.01$ ,  $t(174) = 1.62$ ,  $p = .108$ ,  $\eta_p^2 = 0.015$ ) or those who did not ( $b = -0.01$ ,  $t(171) = -1.57$ ,  $p = .119$ ,  $\eta_p^2 = 0.014$ ). The interaction seems to be driven by the fact that the patterns for the effect of coworker intrusiveness seem to go in different directions in the different support conditions such that, for those who received support from the

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<sup>6</sup> Although the initial analysis did not provide evidence of an interaction between support condition and Part 1 anticipated negative emotion ( $b = -0.08$ ,  $t(345) = -0.43$ ,  $p = .671$ ,  $\eta_p^2 = 0.001$ ), past research in our lab has found that people sometimes have negative emotional reactions to the absence of support and, therefore, this analysis was intended to examine this as a possible reason for the unexpected main effect of negative emotion in predicting an increased propensity to seek support from the significant other.

significant other, coworker intrusiveness showed a trend towards increasing the tendency to seek support from a significant other. However, for those who did not previously receive support from their significant other, the pattern suggests they tended to decrease the likelihood of seeking support from the significant other when they had rated their coworker as more intrusive.

**Coworker.** The analysis described above for the significant other outcome was repeated to examine the extent to which experiences in previous interactions influenced the likelihood of choosing to ask for help from one's coworker. The results revealed a positive main effect of perceived negative evaluations from Part 1 of the study ( $b = 0.01$ ,  $t(188) = 2.34$ ,  $p = .020$ ,  $\eta_p^2 = 0.028$ ) such that greater perceptions of negative evaluations by one's significant other increased the propensity to seek support from one's coworker. There were no other significant effects.. This outcome supports the role of previous experiences of support in influencing latter decisions about support. However, rather than providing support for the expected role of previous experiences with the coworker in shaping the likelihood of seeking support from him or her, it suggests a different way in which past and future support experiences may be related. Specifically, negative experiences with one individual may increase the desire to seek support from another (perhaps related to the decreased propensity to seek support from that other person).

**Friend.** Examining the propensity to seek help from a friend who lives nearby revealed that ratings of experiences in supportive interactions with one's significant other or coworker did not have any significant effects in predicting the

likelihood of reaching out to the friend for help. These findings suggest that experiences with other individuals did not affect the desire to ask a friend for support.

**Taxi.** The analysis investigating the extent to which the previous experiences with a significant other and coworker predicted calling a taxi for help in the given situation demonstrated that there was a significant positive main effect of perceptions of negative evaluations by the coworker from Part 3 on likelihood of calling a taxi for help ( $b = 0.01$ ,  $t(229) = 2.30$ ,  $p = .023$ ,  $\eta_p^2 = 0.023$ ). This indicates that greater perceived negative evaluations in Part 3 of the vignette were associated with an increased likelihood of choosing to seek help by contacting a taxi. There were no other effects that approached significance in predicting decisions to call a taxi.

**No support.** The final choice amongst the support seeking options was not to call anyone for help and to instead walk home. The results demonstrated a significant interaction between support receipt in Part 1 of the vignettes and anticipated negative emotion in response to one's experience with their coworker in Part 3 ( $b = 0.50$ ,  $t(182) = 2.15$ ,  $p = .033$ ,  $\eta_p^2 = 0.025$ ). Follow up analyses indicated that the effect of negative emotion in Part 3 was significant in the support condition ( $b = 0.39$ ,  $t(94) = 2.61$ ,  $p = .011$ ,  $\eta_p^2 = 0.068$ ) such that, for those who received support from a significant other in Part 1 of the vignette, more negative emotion in their interaction with their coworker was related to an increased likelihood of choosing not to seek any support. This effect was not significant in the no support condition ( $b = -0.11$ ,  $t(88) = -0.60$ ,  $p = .547$ ,

$\eta_p^2 = 0.004$ ). This finding suggests that amongst those who received support on two occasions, rather than one, more negative reactions in the latter experience were associated with an increased tendency to abstain from support seeking efforts.

## **Interim Summary and Discussion**

### **Is attachment-related anxiety associated with increased expectations of feeling evaluated in supportive interactions?**

In Hypothesis 1a, I predicted that the attachment anxiety of a support recipient would be positively associated with perceptions of being negatively evaluated by one's support provider in the context of a supportive interaction. Part 1 of this study assessed this hypothesis using a vignette that involved the individual's significant other while Part 3 investigated this assertion within a supportive interaction with a coworker. Additionally, Part 2 explored whether the suggested association would be apparent in the context of a loving act. In response to each part of the vignette, participants answered questions about how they would expect to feel in the particular situation.

Part 1 of the study provided support for the hypothesized relationship, demonstrating evidence of the link between increasing attachment anxiety and perceptions of negative evaluations by one's significant other. Interestingly, the findings also revealed a three-way interaction between support condition and attachment anxiety and avoidance. Follow-up analyses showed that the interaction between the attachment dimensions (i.e., the positive relationship between anxiety and negative evaluations was attenuated as avoidance

increased) was significant only in the no support condition. While this was not anticipated, to the extent that the no support condition was more ambiguous, it fits with other research that has found the effects of attachment on perceptions of support to be most apparent in ambiguous situations compared to those that are clearly supportive (Collins & Feeney, 2004).

In contrast to the findings for Part 1, however, the analysis examining the experience of support that occurred in the context of an interaction with a coworker (Part 3) did not suggest that the attachment-related dimensions had any significant effects on perceptions of being negatively evaluated by one's support provider. Although both parts of the vignette involved supportive interactions, there may be a few explanations for the dissimilar findings.

One possibility is that the attachment-related dimensions measured in this study may be more relevant to, and therefore, more readily applied to, interactions with a significant other than to a coworker (who was also described as a close friend). The literature suggests that people hold both relationship-specific and generic working models and that the accessibility of any particular model at a given time depends upon a variety of factors (e.g., richness of the history of relevant interactions upon which the working model was formed, contextual cues, motivational goals, internal states, etc.). In general, it is the working models of attachment related to an individual's primary attachment figures (often parents or romantic partners) that are most influential in a person's generic, chronically accessible working models of attachment. These chronically accessible representations play an important role in the functioning of the



attachment system across time and relationships (see Mikulincer & Shaver, 2007, for a review).

Therefore, while it is reasonable to expect that attachment-related representations of romantic relationships would be related to an individual's more generic working models that they would employ in attachment-relevant situations in the absence or more relationship-specific working models, it is possible that evidence of the predicted relationship between attachment-related anxiety and perceptions of negative evaluations in Part 1 and the lack thereof in Part 3 may be a result of the particular measure of attachment that was used. Specifically, the ECR-R (Fraley et al., 2000) asks people to respond with regard to how they "feel in emotionally intimate relationships," and the items refer to one's "partner" or "romantic partner." Therefore, this assessment captures most specifically how people feel in romantic relationships as opposed to other relationships. To the extent that people may experience different types of relationships differently, and that they may have different attachment-related beliefs that generalize to some relationships as opposed to others, it is possible that the measure of attachment used in this work was better suited to capture the relationship between attachment-related beliefs and interaction-related outcomes in situations involving romantic partners and less ideal to capture the effects of attachment-related beliefs that would be applied to the interaction with an individual who is a coworker and friend.

The inconsistent findings between Parts 1 and 3 of the vignette may also be due to differences in the types of mechanisms that are most influential in each

of these types of contexts. The ESI model (Burke et al., 2013) argues that both individual and contextual factors can shape cognitive interpretations of supportive interactions. The present work focuses on one mechanism – individual differences in attachment-related beliefs – that can influence supportive experiences. However, another mechanism that has been shown to play an important role in shaping reactions to support is the self-relevance of the context in which support occurs. Previous work in our lab draws attention to the role of the self-relevance of the context in which supportive interactions take place as playing an important role in influencing construals of and, subsequently, reactions to support receipt (Burke & Goren, 2014). In line with the premises of the ESI model described in Chapter 1, research by Burke and Goren (2014) takes a social-cognitive perspective to suggest that interpretations of the meaning derived from supportive interactions may vary as a function of the self-relevance of the context. Specifically, it suggests that self-relevant contexts engender interpretations of support in terms of its implications for the self whereas contexts that are relatively low in activating self-relevant concerns are more likely to give rise to interpretations of support in terms of its relational implications. While the stressful experience of waking up late may not be particularly self-defining or diagnostic of self-worth, career-related performance is likely to be more self-relevant. Also consistent with the expectation that working models of attachment may play a more important role in Part 1 of the study compared to Part 3, an attachment perspective would suggest that attachment system is more likely to be activated in the context of close interpersonal

relationships, such as that with a significant other, compared to in a work context. Thus, the differences in the nature of these situations in Parts 1 and 3 may lead to important distinctions in the mechanisms that are most central to driving interpretations of the specific supportive interactions. As described above, predictions based on the ESI model as well as those based on the attachment literature would both expect that individual differences in working models of attachment might be more influential in molding reactions to the interaction with a significant other at home in Part 1 of the study, whereas these factors might be less important in shaping reactions in self-relevant contexts, such as one's workplace, where support may be construed in terms of its personal implications and relational concerns may be less of a focal point.

In Part 2, exploratory analyses examined whether the predicted effect of anxiety on perceptions of negative evaluations by one's interaction partner within supportive situations would occur for interactions that involved a loving act rather than a supportive one. The findings revealed not only that anxiety was not linked to greater levels of perceived negative evaluations by the interaction partner (as was predicted to occur within the supportive interactions), but also, contrary to what was expected for the supportive situations, that avoidance was related to increased perceptions of unfavorable evaluations by the provider. This is an interesting finding because the importance of the different attachment-related dimensions in shaping reactions to supportive versus loving acts may speak to the different types of concerns that characterize each type of insecurity. Specifically, whereas attachment anxiety is associated with a strong desire to

attain closeness in relationships and concerns about threats to the relationship, attachment-related avoidance is associated with a desire for independence and self-reliance. Likewise, supportive situations may play into the concerns of anxious individuals to the extent that they engage the possibility of negative evaluations, which may be seen as a threat to one's relationship and, therefore, pose a threat to the goals of those higher in attachment anxiety. Meanwhile, loving acts may engage the concerns of avoidant individuals whose histories of experiences in their attachment relationships have generally contributed to an adaptive preference for independence and self-reliance and over closeness and intimacy in relationships. Heightened expectations for negative evaluations from the provider of the loving act, therefore, might be related to the avoidant individual's value judgments related to the type of interaction or relationship described in this vignette. In other words, because these individuals place considerable value on independence and self-reliance, it might be that they consequently assume that others hold similar values and would, therefore, think poorly of them in situations where they demonstrate some violation of those qualities that they believe are important. Alternatively, the relationship between avoidance and expectations for negative evaluations in response to a loving act may be a reflection of the past experiences of rejection at the hands of one's attachment figure(s).

**Is the link between feeling unfavorably evaluated and negative emotion strengthened as anxiety increases?**

The results from this study do not provide evidence for the suggested interaction between anxiety and perceptions of unfavorable evaluations in contributing to expectations for more negative emotional reactions to supportive interactions. Although there was some evidence that individuals did anticipate experiencing more negative emotional reactions when they thought they would feel more negatively evaluated, negative emotional reactions to unfavorable evaluations were not greater amongst those with higher levels of anxiety.

One reason that anxiety and negative evaluations did not interact to predict negative emotional reactions could be the ambivalent feelings that anxious people may experience in these types of situations. Anxiety is simultaneously associated with a strong desire for closeness and a hypervigilance for relationship threat.<sup>7</sup> Although the interaction was hypothesized based on the latter tendency of those high in anxiety to be particularly sensitive to negative evaluation, these individuals may also experience positive reactions because supportive interactions align with the desire for closeness (Mikulincer & Shaver, 2007). Whether and to what extent ambivalence may play a role in the reactions of anxious individuals would be an

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<sup>7</sup> In fact, analyses examining the link between the attachment dimensions and relationship threat revealed that both attachment anxiety and avoidance were significantly, positively related to perceptions of relationship threat in the interactions involving a significant other (i.e., Parts 1 and 2 of Study 1), although the effect sizes are somewhat larger for anxiety (Study 1:  $\eta_p^2 = 0.034$ ; Study 2:  $\eta_p^2 = 0.025$ ) than for avoidance (Study 1:  $\eta_p^2 = 0.023$ ; Study 2:  $\eta_p^2 = 0.018$ ).

interesting topic for future work. It would be particularly fascinating to know whether ambivalence, to the extent that it could explain this type of finding, would primarily affect expectations about support or whether it would also play an equally important role for emotional reactions within actual experiences.

Mikulincer and Shaver (2007) point out that although interactions that involve closeness may contribute to optimism and positive emotions at first, these good feelings may be short-lived because anxious individuals tend to experience a reactivation of attachment-related concerns in response to even minor indications of rejection, unavailability, or lack of interest. Once they crop up, these perceptions are likely to give rise to negative feelings. Therefore, the absence of the expected positive link between anxiety and negative emotions in this study may be related to the positivity aroused by the opportunity for closeness, which seems likely to be replaced by more negative experiences in the context of actual, as opposed to hypothetical, interactions. Because Study 2 examines the same relationships in a simulated real-life interaction, the results of that study can provide some insight into whether the pattern of findings reported here is also apparent in non-hypothetical situations.

### **Is avoidance related to perceptions of supportive behavior as more intrusive and less helpful?**

Across both support scenarios, this study provided support for the predicted relationship between avoidance and perceptions of intrusiveness as well as helpfulness such that as levels of attachment-related avoidance increased, people tended to rate their interaction partner as more intrusive and

less helpful. In both Parts 1 and 3, the main effect of avoidance was qualified by a two-way interaction between anxiety and avoidance whereby the hypothesized relationship between avoidance and perceptions of intrusiveness was strongest amongst those with low levels of anxiety. This makes sense as the effects of avoidance and anxiety were predicted to generally work in opposing directions. In this case, the difference in desires for support as a function of attachment-related anxiety and avoidance may drive contradictory interpretations depending on how welcoming the individual was to the idea of receiving support. Since anxious individuals yearn for closeness, support should be more welcomed by these individuals and, therefore, considered less intrusive. Therefore, the fact that anxiety diminishes the strength of the relationship between avoidance and intrusiveness is not surprising.

In Part 2, where the loving act took place, the findings were different from those for the supportive interactions. Here, the results demonstrated the predicted main effect of avoidance, but a positive main effect was also revealed for anxiety. Although it was not anticipated that anxiety would be related to increased perceptions of intrusiveness, this finding might be a result of the fact that, despite the strong desire for closeness associated with anxiety, attachment-related concerns may contribute to negative perceptions of interactions amongst anxious individuals (Mikulincer & Shaver, 2007).

The results for this part of the vignette also differed from the other parts in that, unlike the findings for the supportive components of the scenario, the attachment dimensions did not have any significant effects on ratings of

helpfulness. This makes sense because while the loving act was a positive interpersonal behavior, this part of the vignette did not involve the provision of help in response to a perceived need. Therefore, this can be considered an accurate assessment of the scenario.

Comparing the findings from this part of the vignette to those for the parts that involved support suggests that reactions to loving acts may be differentially related to attachment-related dimensions. Because loving acts and supportive acts share some features but vary primarily in the fact that supportive acts tend to occur in response to a perceived difficulty whereas loving acts do not, identifying the mechanisms that differentially drive reactions to support versus loving acts in future work may help to identify more specifically which components of support engender what types of reactions.

### **Do past experiences of support influence subsequent support seeking decisions?**

In the last part of the vignette, participants were asked to rate the relative likelihood of seeking support from a number of potential providers, including those from whom they previously received support. Hypothesis 3 predicted that reporting more negative feelings after previous interactions with a given individual would reduce the likelihood of seeking support from that individual in response to subsequent needs. Study 1 provides a reasonable amount of evidence to support the prediction that past support experiences shape later desires and/or decisions to seek support. The findings provided some support for the predicted relationship between negative experiences in previous



interactions and decreased support seeking efforts toward the given individual (e.g., ratings of significant other intrusiveness decreased the propensity to choose to seek support from that person). In addition to this effect, the results also revealed that negative perceptions of support from others increased the tendency to reach out to different sources of support. For example, there was evidence that some types of negative experiences with one's significant other increased the propensity to seek help from a coworker. This work also found that, for those who experienced two instances of support, rather than one, negative emotional experiences in the latter supportive interaction augmented the likelihood of choosing not to seek any help at all. Altogether, these results corroborate the hypothesis that experiences in supportive interactions can play a role in molding the future experiences of support that individuals open themselves up to.

The evidence above suggests that negative experiences of support play a role in shaping future support seeking by decreasing the tendency to look to those whose support was experienced in more negative ways and increasing the propensity to reach out for help to other sources. However, the results also revealed a positive main effect of negative emotion in Part 1 of the vignette on the likelihood of seeking support from one's significant other, a finding in the opposite direction of the predicted effect. While at first this might seem counterintuitive, further analyses, although inconclusive, suggested the possibility that this effect might be driven by the absence of support. To the extent that this is the case, the pattern of results provides reason to believe that the absence of

support, when accompanied by a negative emotional reaction, may fuel a desire to seek it in subsequent situations. Thus, it is possible that a negative experience related to the absence of support, like those related to its occurrence, may also shape behaviors such they reflect a desire to actively avoid the previously experienced negative event (or nonevent) in subsequent circumstances (in this case, fueling a desire for support receipt). Although the data do not provide direct evidence of this possibility, the pattern of effects is consistent with past work from our lab that has found that people have particularly negative reactions to the absence of support in some situations (Burke & Goren, 2014).

**Closing Remarks.** Across the multifaceted situations that were used to assess anticipated experiences in supportive interactions throughout this study, the results of the present work offer a fair amount of evidence to support the importance of attachment-related beliefs in influencing assessments of other's supportive behaviors. Furthermore, this research provides evidence for the role of past experiences of support in shaping subsequent instances not only through the ways in which attachment colors construals of such interactions, but also by demonstrating that past evaluations of supportive interactions come into play when making decisions about whether and from where to actively seek help in a time of need. Overall, the findings of this study show that individuals' expectations for their experiences in potentially supportive interactions align in many ways with the anticipated results outlined by my hypotheses.

## Chapter 3: Study 2

### Overview: Part 1

The primary focus of Study 2 was to examine the interrelations among attachment, perceptions of being negatively evaluated, and emotional and behavioral reactions in actual supportive situations. This approach is critical to assessing whether the outcomes that people anticipate reflect their actual experiences. The objectives of this study were achieved through the use of an online task in which the participants ostensibly worked with another individual with whom they were paired based on similarity in initial responses. The participant was assigned to complete a task framed as related to both social skills and competence. During this time, the ostensible partner was “assigned” to an observer position and, for those in the support condition, acted as a support provider (via online messaging) to the participant as he or she was completing the task. Following completion of this task, individuals rated their perceptions and experiences in the interactions, enabling clarification of how attachment influences real-life experiences in supportive interactions. Next, individuals were presented with the opportunity to choose between two options for a future task: one that would involve working alone and another that would involve working with the same partner on a task in which their partner would have clues that they could use to help the participant if they wanted to (therefore, likely involving support receipt for the participant). Responses to this choice were intended to

provide additional insight into how previously reported experiences in supportive interactions shape subsequent willingness to receive support.

### **Method: Part 1**

**Participants.** A sample of 428 participants (191 women and 237 men,  $M_{age} = 33.7$  years,  $SD_{age} = 10.8$ ) recruited through Amazon's Mechanical Turk completed Part 1 of this study. Participants received \$1.50 USD as compensation for their time. After exclusions,<sup>8</sup> analyses were run on 371 participants (168 women and 203 men,  $M_{age} = 33.9$  years,  $SD_{age} = 10.6$ ).<sup>9</sup>

**Measures: Part 1.** Most of the measures used in this study were very similar to those used in Study 1 with modifications in wording where necessary in order to best fit the ongoing nature of the situation as opposed to the anticipated reactions to the support situations assessed in the previous study. Where applicable, differences between wording used in the measures are noted.

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<sup>8</sup> Participants were excluded from analyses for the following reasons: 1) did not pass the attention verification questions (23 participants), 2) expressed suspicion about the procedures (an additional 28 participants who had not been excluded due to failure of attention check(s), 1 expressed suspicion and also failed the attention check), 3) reported technical issues (5 participants, all who did not meet any other conditions for exclusion), and/or 4) did not rate either of the task domains as at least moderately important (1 person who had not already been excluded due to failure of attention check(s), 1 person who also failed attention verification questions).

<sup>9</sup> T-tests were performed to compare excluded individuals to those who were included in the analyses on the following variables: gender, age, attachment anxiety, attachment avoidance, pessimistic attributional style, depression, and self-esteem. The results revealed that there were no significant differences between excluded and included individuals on the following: gender, age, and pessimistic attributional style. However, those who were excluded did differ in several ways from those who were not excluded from the analyses. Compared to those who were included in the analyses, those who were excluded tended to be higher on attachment anxiety and avoidance, higher on depression, and lower in self-esteem.

**Importance of domains.** Two questions asked (separately) about the importance of 1) relationships with friends and family and 2) personal competence and intelligence, to the individual. Participants rated the importance of each on a 5-point scale ranging from “not at all important” to “extremely important.” These questions were used to gauge whether each participant found (at least one of) the domains of the task they completed to be personally relevant and important and, therefore, that he or she cared about their performance in the relevant domain(s). All individuals included in the analyses rated either of the domains as at least moderately important (rating of 3 out of 5). (Importance of relationships:  $M = 4.34$ ,  $SD = .91$ ; Importance of competence and intelligence:  $M = 4.49$ ,  $SD = .70$ )

**Attachment.** The Experiences in Close Relationships-Revised Questionnaire (ECR-R; Fraley et al., 2000) was again used to assess attachment-related anxiety and avoidance. (See Study 1 or Appendix B for further details about this measure.) The scale demonstrated high reliabilities for both subscales (Cronbach’s  $\alpha = .96$  for each).

**Other evaluation.** Perceptions of being negatively evaluated by the support provider were assessed using the same questions used in Study 1 rephrased to the appropriate tense and referring to the partner’s username, “alex09”. (See Study 1 for further details about this measure.)

**Assessments of the provider.** Participants were asked to assess both the helpfulness and the intrusiveness of the support provider using the same

questions as used in Study 1 (once again, with updated tense and using the partner's username). (See Study 1 for further details about this measure.)

***Assessments of the interaction.*** Satisfaction with self, other, and the interaction were measured using the same questions as Study 1 (rephrased to the appropriate tense and to refer to "alex09"). (See Study 1 for further details about this measure.)

***Emotional reactions.*** Emotions were assessed using the same emotions as in Study 1.<sup>10</sup> However, instead of indicating expected changes in emotional states, participants were asked to indicate the extent to which they were currently experiencing each emotional state using a 7-point scale ranging from "not at all" to "extremely." Emotion ratings were assessed both following the initial measures (just prior to the partner-based activity), as well as after the assessment of reactions to the interaction (e.g., self and other evaluations) that followed the task. (See Study 1 or Appendix B for further details about this measure.) The pre- and post-task measures of positive and negative emotions exhibited good reliabilities, with Cronbach's alphas falling between .89 and .95.

***Covariates and additional measures.*** As with Study 1, three personality and mood measures were assessed in order to control for the possibility that these more general factors might influence the findings. Attributional style was once again assessed using 2 items from Whitley's (1991) Short Form of the Expanded Attributional Style Questionnaire (ASQ-S). Depressive

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<sup>10</sup> The only difference in this study is that the emotion "loved" is not included in Study 2 since it is not appropriate given that the interaction in this case is with a previously unknown individual.

symptomatology was once more gauged using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977; Cronbach's  $\alpha = .94$ ). Finally, self-esteem was also measured as in Study 1 by using the Rosenberg Self-Esteem Scale (Rosenberg, 1965; Cronbach's  $\alpha = .93$ ). (See Study 1 or Appendix B for further details about measures of attributional style, depressive symptomatology, and/or self-esteem). Additionally, questions aimed at assessing relationship threat were again included amongst the post-task measures in order to allow for the possibility of exploring this perception if informative given the findings. Items assessing perceptions of relationship threat were assessed in the same way as in Study 1 with a minor rephrasing of the questions including using the wording "potential future relationship" rather than "relationship" when referring to the potentially threatened "relationship."

### **Procedure: Part 1**

This study was conducted using Qualtrics Survey Software through a link provided to eligible participants via Amazon's Mechanical Turk. Participants began the study by completing a set of initial measures including assessments of attributional style, depressive symptoms, and self-esteem. Next, individuals completed an assessment of attachment style. After this, participants answered questions assessing their current emotional state(s). Once these measures were completed, individuals were told that they would be working with a partner with whom they would be matched based on their responses to the earlier

questions<sup>11,12</sup> and they were then asked to develop a username for the purposes of this study, after which they waited for several seconds while they were ostensibly matched with a partner by the computer. After a few moments, participants received the following message: “Based on your responses to previous questions, you have been matched with: alex09. You will work with alex09 in the following task and additional ones later on.” They were then told that they would each be randomly assigned a role in the first task. Participants were informed that they would be completing the task while their partner observed their performance and that the observer would have the ability to send messages if they would like to do so. Next participants worked on a set of questions from the task known as the “Reading the Mind in the Eyes” Test (revised version; Baron–Cohen, Wheelwright, Hill, Raste, & Plumb, 2001), which entails looking at a series of photographs of the eye-portion of an individual’s face and indicating which emotion that person is experiencing. The instructions for this task were altered to frame it as related to both social skills and

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<sup>11</sup> This was done to create a sense of a relationship with the ostensible partner, thus making the partnership more meaningful. However, it is important to note that it is beneficial that the individual is a new acquaintance as this allows an examination of how individuals apply their general beliefs about self and other to supportive interactions with new people. This is relevant to understanding interactions with acquaintances and friendship formation processes. (Notably, it is likely to be the specific history of experiences of interactions within an established relationship (rather than one’s general attachment-related beliefs) that influences both the attachment-related beliefs associated with a specific person and the subsequent perceptions and interpretations of a given interaction with that individual.)

<sup>12</sup> The instructions presented to the participant explained: “In this part of the study, you will be working with another person who is also currently online taking part in this study. You will be matched with a specific partner based on similarity in your initial responses to the earlier questions.”



competence.<sup>13</sup> Those in the support condition received help from their partner while those in the no support condition did not get any help during the task. The support involved the following practical suggestion on how to “succeed” in the task: “I once read in a book that focusing on the pupils and the eyebrows can be really helpful when trying to read emotional expressions” while those in the no support condition simply received a message saying, “This is an interesting activity.” Following the task, individuals answered questions assessing their perceptions of themselves, the support provider, and the interaction as well as their current emotions. Finally, participants were presented with the opportunity to choose how they would prefer to work on a future follow-up task (either alone, or with the same partner). In the partner option, they were told that it would involve their partner having clues that he or she can use to help the participant with his/her task. The framing of this latter task makes it clear that working with the partner would involve the potential for support receipt while working alone would not involve this possibility, enabling an examination of the degree to which participants avoid the potential for receiving support as a function of their earlier experiences. After they made this decision, the study was complete (participants did not actually complete another task) and participants were debriefed.

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<sup>13</sup> The instructions for the task included the following statement to frame the task as relevant to both social skills and competence: “This task measures social intelligence. Individuals who succeed on this task tend to be those who either have strong relational and social skills and/or those who are highly intelligent.” The purpose of using these two domains was to increase the likelihood that every participant would see at least one of the two domains as being personally-relevant and important to them. The full instructions and a sample item are available in Appendix D.

## Results: Part 1

Table 3 presents a correlation matrix that provides descriptive statistics for the sample that participated in Part 1 of Study 2.

Predictor variables (except for those that had a meaningful midpoint at 0, such as change in emotion) were centered on the mean prior to analyses so that the reported effects are interpretable for someone who is average on the other predictor variables.

Following the experience of receiving support from one's partner during the "Reading the Mind in the Eyes" task, it was hypothesized that attachment anxiety would be related to higher ratings of feeling unfavorably evaluated by one's partner (Hypothesis 1a) and a strengthened association between negative evaluations and negative emotions (Hypothesis 1b). It was also predicted that attachment avoidance would be associated with increased perceptions of the support provider's behaviors as intrusive (Hypothesis 2). Furthermore, it was hypothesized that the experiences of feeling evaluated, perceptions of the support provider's behavior as intrusive, and the negative emotions related to one's experience would all contribute to decisions about whether to engage in future experiences that might entail support receipt (Hypothesis 3).

**Negative Evaluations.** To test the prediction that attachment anxiety would lead to a heightened sensitivity to perceiving negative evaluations, I regressed ratings of feeling negatively evaluated on attachment anxiety, avoidance, and support condition, including all interactions, and controlling for the following covariates: attributional style, depressed mood, and self-esteem.

The analysis revealed that there were no significant main effects or interactions of the predictor variables when looking at the sample as a whole. However, because I expected the effect of anxiety on negative evaluations to occur in reaction to supportive situations, I also examined the effects in the support conditions separately. Analyses focusing on the support condition did not demonstrate the predicted main effect of anxiety on negative evaluations ( $b = 2.80$ ,  $t(180) = 1.44$ ,  $p = .153$ ,  $\eta_p^2 = 0.011$ ). However, the findings did reveal a significant interaction between anxiety and avoidance in predicting feelings of negative evaluation ( $b = 2.28$ ,  $t(180) = 2.14$ ,  $p = .034$ ,  $\eta_p^2 = 0.025$ ). A plot of the results revealed that, as levels of avoidance increased, the relationship between attachment anxiety and feeling negatively evaluated was strengthened such that those who were high in both attachment-related dimensions tended to perceive the most negative evaluations from their support provider. (See Figure 11.) Thus, the results of this analysis provide some evidence that anxiety is associated with perceived negative evaluations in response to support receipt, but the strength of the relationship in this case depended upon levels of avoidance. Unsurprisingly, there were no significant effects in the no support condition.

**Negative Emotions.** To investigate whether attachment anxiety was associated with more negative emotional reactions to feeling negatively evaluated, regression analyses were performed with attachment anxiety, avoidance, feelings of being negatively evaluated, and support condition, including all possible interactions between them, and ratings of intrusiveness as

predictors of post-task negative emotion in response to the interaction. The analyses controlled for pre-task negative emotions to account for baseline differences in mood and focus the analysis on how emotions change during the session<sup>14</sup> in addition to the usual covariates included in the analyses (i.e., pessimistic attributional style, depression, and self-esteem). It was anticipated that attachment anxiety and perceived negative evaluations would interact to predict post-task negative emotions, such that greater levels of attachment anxiety would be related to a stronger association between perceived unfavorable evaluations on the part of the support provider and negative emotions.

The analysis revealed a significant two-way interaction between negative evaluation and avoidance ( $b = 0.005$ ,  $t(350) = 3.15$ ,  $p = .002$ ,  $\eta_p^2 = 0.028$ ) demonstrating that as perceived negative evaluations increased, the relationship between avoidance and negative emotions became more positive. (See Figure 12.) The interaction between unfavorable evaluations and anxiety was significant ( $b = -0.003$ ,  $t(350) = -2.08$ ,  $p = .038$ ,  $\eta_p^2 = 0.012$ ), but the pattern was in the opposite direction to my prediction. In other words, those high in anxiety had the most favorable responses to high perceptions of negative evaluations whereas those low in anxiety had less negative emotions when they perceived the least negative evaluations by others. (See Figure 13.) Finally, there was also a significant three-way interaction between support, anxiety, and avoidance

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<sup>14</sup> This makes the analyses more comparable to that done in Study 1, which focused on change in negative emotion.

( $b = -0.11$ ,  $t(350) = -2.92$ ,  $p = 0.004$ ,  $\eta_p^2 = 0.024$ ). Follow up analyses revealed a significant anxiety by avoidance interaction in the support condition ( $b = -0.07$ ,  $t(174) = -2.52$ ,  $p = .013$ ,  $\eta_p^2 = .035$ ) such that relationship between anxiety and negative emotion became increasingly negative as avoidance increased. (See Figure 14.) Overall, the results do not provide support for the hypothesis that anxiety would exacerbate negative emotional responses to perceived negative evaluations and instead indicate that increasing avoidance demonstrated this effect while the interaction between anxiety and negative evaluations went in the opposite direction.

**Intrusiveness and helpfulness.** To determine whether attachment avoidance was related to increased perceptions of support as intrusive, I regressed ratings of partner's behavior as intrusive on support condition, anxiety, and avoidance, including all interactions, adjusting for attributional style, depressed mood, and self-esteem. I expected to find a significant, positive main effect of attachment avoidance on ratings of support provider behavior as intrusive. Contrary to the predictions, the analyses did not reveal a main effect of avoidance ( $b = -0.30$ ,  $t(360) = -0.26$ ,  $p = .796$ ,  $\eta_p^2 = 0.000$ ). There were also not any main effects or interactions for the other variables in predicting ratings of support provider's intrusiveness.

In further examining perceptions of the support provider, I repeated the above analysis to examine how the predictor variables influenced perceptions of the partner's behavior as helpful. Unsurprisingly, the findings demonstrated a significant positive effect of support such that those who received support tended

to perceive their partner as more helpful ( $b = 28.20$ ,  $t(360) = 8.36$ ,  $p < .001$ ,  $\eta_p^2 = 0.163$ ). The expected association between increasing attachment avoidance with decreasing ratings of provider helpfulness did not reach significance ( $b = -2.63$ ,  $t(360) = -1.64$ ,  $p = .101$ ,  $\eta_p^2 = 0.008$ ).

**Allowing for the possibility of support.** When given a choice about taking part in an activity that involves potentially receiving support versus one that does not have that possibility, it was predicted that more negative reactions to the partner's support (or lack thereof) would be related to increased avoidance of subsequent situations that involve the potential for support. Therefore, I proposed that greater perceptions of having been negatively evaluated by the (potential) support provider, ratings of the partner's behavior as intrusive, and more negative emotional reactions to the supportive interaction would each adversely impact the desire to be involved in potentially supportive interactions with one's partner.

In order to examine the prediction that perceptions of and reactions to previous supportive interactions will impact willingness to receive support in subsequent situations, I used logistic regression analyses (GENMOD procedure in SAS Statistical Software with a logit link function) with ratings of feeling negatively evaluated, appraisals of partner intrusiveness, and changes in negative emotions, as well as support condition and each predictor's interactions with support condition, predicting decisions to work alone or with a partner. As with the other analyses described above, the three personality and mood measures (i.e., attributional style, depressed mood, and self-esteem) were

controlled for in the analysis. Additionally, I also adjusted for average levels of negative emotion (across the pre- and post-task measures).

The results for the sample as a whole did not reveal any significant effects. However, because I am interested specifically in reactions to enacted support, I also examined each support condition separately and found that, in the support condition, there was a significant negative main effect of ratings of intrusiveness ( $\chi^2(1, N = 187) = 4.37, p = .037$ ) such that greater appraisals of intrusiveness were associated with a decrease in the desire to work with one's partner again. In the no support condition, there were no significant effects. Therefore, these findings provide some evidence in favor of the hypothesis that negative past experiences play an influential role in decisions about future interactions that may involve the potential for support.

## **Overview: Part 2**

The aim of Part 2 of this study was to examine how attachment style influenced memories for the previous events experienced in Part 1 of the study. This goal was achieved by asking participants from Part 1 of this study to participate in a follow up between 5 and 7 days after their initial participation. During this session, participants were unexpectedly<sup>15</sup> asked to recall and report their experiences during the previous session in order to assess how attachment was related to memories for initial perceptions and emotional experiences that occurred in response to a previous interaction.

## **Method: Part 2**

**Participants.** Participants were recruited by using Amazon's Mechanical Turk service to contact those who completed Part 1 of the study and had not been eliminated from the analyses due to failure to pass attention checks or expressing suspicion in the debriefing question. Altogether, a total of 263 participants (121 women and 142 men,  $M_{age} = 34.8$  years,  $SD_{age} = 10.9$ ) were recruited from the original group who had previously completed Part 1 of this study to participate in Part 2 of the study. Participants received a \$0.50 USD payment as compensation for their time. After excluding those who did not pass

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<sup>15</sup> At the end of the first session, participants were led to believe that there would be a follow-up session related to the preference they indicated for taking part in a future task either independently or with their partner. However, there was no indication given to the participants beforehand that they would be asked to recall their experiences.



the attention check, analyses were run on 247 participants (117 women and 130 men,  $M_{age} = 35.0$  years,  $SD_{age} = 10.9$ ).<sup>16,17</sup>

## **Measures: Part 2**

**Memory check.** In order to assess whether participants were able to remember the previous session, individuals were asked to recall the previous session where they worked with a partner whose username was alex09<sup>18</sup> and to write a brief description of what happened during that session (based on the procedure used by Woodhouse & Gelso, 2008). Responses were coded for accuracy to be sure that individuals were remembering the session that they took part in (as opposed to remembering a different event or fabricating something).

**Memories for perceptions and feelings related to past supportive experiences.** Individuals were asked to think back to the feelings and

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<sup>16</sup> T-tests were carried out to compare excluded individuals to those who were included in the analyses on the following variables: gender, age, attachment anxiety, attachment avoidance, pessimistic attributional style, depression, and self-esteem. The results revealed that there were no significant differences between excluded and included individuals on any of the aforementioned variables.

<sup>17</sup> I performed t-tests comparing those who were included in analyses for Part 1 of Study 2 but not Part 2 of Study 2 to those who were included in analyses for Part 2 of Study 2. Results revealed no significant differences for gender, attachment anxiety, attachment avoidance, pessimistic attributional style, or depression. There was, however, a significant difference in age between the groups with those who participated in Part 2 being older than those who did not ( $t(369) = -2.93$ ,  $p = .004$ ; Mean for those who were included in Part 1 of Study 2 but not Part 2 of Study 2 = 31.61 years; Mean for those who were included in Part 2 of Study 2 = 35.00 years). There was also a very nearly significant difference for self-esteem such that those who participated in Part 2 tended to have higher levels of self-esteem ( $t(369) = -1.97$ ,  $p = .0501$ ; Mean for those who were included in Part 1 of Study 2 but not Part 2 of Study 2 = 30.40; Mean for those who were included in Part 2 of Study 2 = 31.83).

<sup>18</sup> Referring to a username was done in order to jog the individual's memory for the previous session as well as to make the interaction more realistic.

perceptions they experienced during Part 1 of the study and to recall and report on the nature of their previous experiences. They were asked to respond to the questions that they had previously answered based on what they remembered feeling and thinking at the time of the experience. Mirroring Part 1 of Study 2, questions gauged: other evaluation (i.e., individuals' beliefs about their partner's perceptions of them), assessments of the provider (i.e., perceptions of the provider's behaviors as helpful and/or intrusive), assessments of the interaction (i.e., satisfaction with self, other, and in general), relationship threat, and emotional reactions. The questions were the same as in Part 1 with the only difference being slight changes in wording to adjust the items to refer to the experiences during the previous session. Correlations between actual and remembered experiences are presented in Table 5.

***Checklist of events.*** A checklist of events that could have occurred in the previous session (Part 1) of the study was used to assess memory for the past experiences of support. Participants were asked to indicate which events they recalled happening in the previous session (e.g., I received help from my partner) by checking all those events that they believe occurred in Part 1 of the study.

(See Appendix D.)

**Procedure: Part 2.** Part 2 of this study was again conducted using Amazon's Mechanical Turk to recruit eligible individuals and utilizing Qualtrics Survey Software to run the study. Individuals responded to an online questionnaire where they were first asked to think back to the previous session where they interacted with a partner (referring to the username of the partner as

alex09) and to write a brief description of what happened during that session. They then completed a checklist of events in which they indicated from a number of possible events which ones occurred during the previous session. Participants were also asked to think back to their feelings and the perceptions of the experiences they had at the time of the first part of the study and to re-rate emotions, self-evaluations, beliefs of their partner's perceptions of them, assessments of the provider and the interaction, and perceptions regarding relationship threat.

### **Results: Part 2**

Part 2 of Study 2 examined how attachment influences memories related to a past supportive interaction (particularly, feelings of being negatively evaluated during supportive interactions, emotions experienced during the event, and interpretations of the partner's behavior). It was expected that attachment-related beliefs would continue to impact experiences of support by biasing memories of feelings and perceptions that occurred during past supportive events. Specifically, it was anticipated that the impact of both attachment-related dimensions (i.e., anxiety and avoidance) would lead to memories that became more prototypic of an individual's attachment orientation over time. Therefore, it was expected that the relationships between attachment anxiety and perceptions of negative evaluations and negative emotions would increase relative to initial ratings. Likewise, it was predicted that the relationship between attachment avoidance and perceptions of support behaviors as intrusive would also be remembered such that the association between the two was strengthened

relative to ratings done at the time of the initial supportive interaction. Descriptive statistics for the subset of participants who were included in Part 2 of Study 2 are presented as a correlation matrix in Table 4.

Participants began this part of the study by responding to an open-ended question in which they were asked to write a brief description of their recollection of the previous session. Responses to this question demonstrated relatively poor recall of the previous session. Only 60% (149 out of 247 participants) of participants' responses to this question indicated clear or possible evidence of recall while the remaining 40% (98 out of 247 participants) responded either that they did not remember or referred to events that clearly did not occur in the first part of the present study. Results for this study are presented for the full sample with findings for the different subsets presented only where they differ from that reported for the full sample.<sup>19</sup>

**Memories for perceptions and feelings related to past supportive experiences.** Regarding the re-ratings of the original perceptions and emotions, it was expected that as levels of attachment anxiety increase, individuals would: (1a) remember feeling more negatively evaluated by their partner, both compared to their feelings at the time and to less anxious individuals, and

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<sup>19</sup> Despite evidence of poor recall, it is possible that participants were able to remember more about the study as their memories were jogged by the questions that they answered. (In fact, one person contacted me to let me know that she had indicated that she did not recall the study but remembered the study soon after submitting her response for that initial question.) Furthermore, even for those whose answers to the open recall suggested that they did not clearly remember the study, it is interesting to examine how the attachment-related dimensions would help them to make sense of the experiences they believe that they would have had.

(1b) remember more negative emotional feelings in reaction to the situation (once again, both compared to their feelings at the time and to less anxious individuals). Additionally, (2) as attachment-related avoidance increases, it was anticipated that individuals would remember their partner as more intrusive and less helpful than they had during their initial self-reported experience and relative to less avoidant individuals (Hypothesis 4).

In order to examine the influence of attachment on memory for perceptions and emotions experienced at an earlier time, I performed regression analyses to examine whether the attachment dimensions (anxiety and avoidance and their interaction) predicted memories for the previously experienced perceptions and emotions (i.e., ratings of feeling negatively evaluated, perceptions of partner intrusiveness, and negative emotions were the outcomes of interest), adjusting for the actual experiences of these emotions and perceptions as reported at the end of Part 1 of the study as well as the following covariates: attributional style, depressed mood, and self-esteem.

***Memories of feeling negatively evaluated.*** There were no significant effects of the attachment dimensions on reported memories of negative evaluations.

***Memories of experiences of negative emotions.*** Analyses including the full sample revealed that there were no significant effects of the attachment dimensions when looking at negative emotion. When separate analyses for those who exhibited different levels of explicit recall in the open-ended question were performed, analyses for those who clearly remembered ( $b = 0.18$ ,  $t(59) = 2.62$ ,  $p$

= .011,  $\eta_p^2 = 0.104$ ) and that for those who clearly remembered combined with those who demonstrated at least possible evidence of recall ( $b = 0.14$ ,  $t(141) = 2.98$ ,  $p = .003$ ,  $\eta_p^2 = 0.059$ ) revealed that there was a positive main effect of avoidance such that increasing avoidance was associated with memories of more negative emotional reactions. There were no significant effects amongst those who did not demonstrate any evidence of recall. Thus, the findings focused on those who demonstrated evidence of remembering the previous part of the study suggest that higher levels of attachment-related avoidance were associated with recall of more negative emotions.

***Memories of perceived partner intrusiveness and helpfulness.*** There were no significant effects of the attachment dimensions on recall of partner intrusiveness, regardless of levels of explicit recall. Similarly, for the sample as a whole, the analyses did not reveal any significant effects of attachment anxiety or avoidance on memories of helpfulness. However, separate analyses for those who exhibited different levels of explicit recall in the open-ended question demonstrated that, consistent with the predictions, there was a significant negative main effect of avoidance on recalled helpfulness ( $b = -5.69$ ,  $t(90) = -2.19$ ,  $p = .031$ ,  $\eta_p^2 = 0.051$ ) amongst those who did not show evidence of remembering the previous study. There were no significant effects when focusing on those who demonstrated evidence of accurate recall in response to the open-ended question.

**Checklist of events.** Regarding the checklist of events, analyses were largely exploratory to examine how attachment style influences accuracy of

memories for receiving support. It was of particular interest to see if individuals were more likely to “remember” events consistent the specific goals that characterize their working models of attachment or “fail to recall” the occurrence of previous experiences considered inconsistent with their attachment-related goals/desires. If attachment-related anxiety and avoidance impact memories in a way that fits with the goals related to each dimension (i.e., deactivation strategy associated with avoidance and hyperactivation associated with anxiety), we might see that those high in avoidance are less likely to report having received support or more likely to recount that someone interfered with attempts to manage a problem by themselves whereas those high in anxiety might have a greater tendency to report having received support. Table 6 presents the base rates for endorsement of each support-related item in the checklist that received a minimum of 20 endorsements.

To explore the impact of attachment on endorsing specific memories, I performed a set of logistic regressions (using the GENMOD procedure in SAS statistical software with a logit link function) with attachment-related anxiety and avoidance as well as support condition, and all possible interactions, predicting whether each specific item was identified as having occurred using the checklist. Analyses controlled for the following covariates: attributional style, depressed mood, and self-esteem (assessed in Part 1). Because these analyses were exploratory, below I focus on reporting the more informative results related to the attachment-related dimensions and/or support condition. (Included are the findings related only to the recall of support-related events that received a

minimum of 20 endorsements. For this reason, I focus on the sample as a whole rather than looking separately at groups that demonstrated different levels of recall in the open-ended question as separate analyses would further reduce the number of endorsements per item in each group.)

**Received help.** Analyses examining memories of support receipt revealed that, compared to those in the no support condition, participants in the support condition were significantly more likely to report that they received help ( $\chi^2(1, N = 247) = 38.83, p < .001$ ). Furthermore, higher avoidance was related to a decreased tendency to report receiving help ( $\chi^2(1, N = 247) = 4.10, p = .043$ ).

**Didn't receive help.** Individuals in the support condition were significantly less likely to report that they did not receive help relative to those in the no support condition ( $\chi^2(1, N = 247) = 28.25, p < .001$ ) but there were no significant effects of the attachment dimensions.

**Partner did something nice for no particular reason.** The results demonstrated that anxiety was related to an increased probability of saying that the partner did something nice for no particular reason ( $\chi^2(1, N = 247) = 4.57, p = .033$ ).

**Wanted help but did not receive any.** The findings revealed that those in the support condition were less likely to report that they wanted help but didn't receive any compared to those in the no support condition ( $\chi^2(1, N = 247) = 6.37, p = .012$ ).

**Received help but did not want any.** In this study, it was found that, relative to those who did not receive support, those in the support condition were



more likely to say that they received help but didn't want it ( $\chi^2(1, N = 247) = 8.89, p = .003$ ).

***Partner offered help without being asked.*** The results revealed that there was a significant effect of support such that being in the support condition, rather than the no support condition, was related to an increased likelihood of reporting that one's partner offered help ( $\chi^2(1, N = 247) = 24.39, p < .001$ ).

### **Interim Summary and Discussion**

#### **Is attachment-related anxiety associated with increased expectations of feeling evaluated in supportive interactions?**

Hypothesis 1a predicted that those with higher levels of attachment anxiety would perceive more negative evaluations in response to supportive interactions. The results of Study 2 (Part 1) did not demonstrate support for this hypothesis when looking at the sample as a whole. (Although, in the support condition, the interaction between anxiety and avoidance suggested that anxiety was increasingly associated with more negative evaluations as levels of avoidance increased, a finding that suggests that anxiety may still play a role in the process.) One possible explanation for the lack of clearer support for the prediction may be that the nature of the given interaction was such that it was not readily interpretable as indicative of negative evaluations. The relatively low ratings of feeling negatively evaluated ( $M = 20.27$  out of a scale ranging from 0 to 100,  $SD = 24.22$ ) are consistent with this possibility. Furthermore, it is also possible that the activation of the attachment system in this situation was limited given the features of the interaction. Specifically, the exchange between the

participant and the “partner” may not have been substantive enough (i.e., involving one somewhat neutral statement) to activate the attachment system sufficiently to enable the predicted effect to be observed. Likewise, the lack of a closer relationship between the participant and his or her partner may have also limited the activation of the attachment system.

**Is the link between feeling unfavorably evaluated and negative emotion strengthened as anxiety increases?**

Not only did anxiety and unfavorable evaluations not interact such that greater levels of anxiety were associated with more negative emotional responses to unfavorable evaluations, but the results of the study unexpectedly suggested that the interaction between anxiety and negative evaluations was in the opposite direction. Highly anxious individuals exhibited decreasing levels of negative emotions as their perceptions of being negatively evaluated by their partners increased whereas those low in attachment-related anxiety experienced increasingly negative emotional reactions as the perception of being negatively evaluated by one’s partner became greater. Conversely, as perceived negative evaluations became greater, increasing levels of avoidance were associated with more negative emotions. Thus, the findings presented here are inconsistent with the anticipated outcomes of the study. One possible explanation for this pattern of findings has to do with the alignment between perceived evaluations by another and one’s view of self. Because avoidance is often associated with a positive self-view (specifically, amongst dismissive avoidants) whereas anxiety is associated with a more negative self-view (Bartholomew & Horowitz, 1991), it

may be that negative evaluations by the provider are more upsetting for those high in avoidance because they do not coincide with their beliefs about themselves. Likewise, those high in anxiety may have a greater tolerance, or even preference, for negative evaluations from others as a result of the match between negative feedback and self-views. This assertion is consistent with the work of Cassidy and colleagues (Cassidy, Ziv, Mehta, & Feeney, 2003) who found evidence that individuals demonstrated a preference for feedback that was concordant with their self-perceptions. It also fits with the assertions of self-verification theory (De La Ronde & Swann, 1998; Swann, 1983, 1990; Swann, Hixon, & De La Ronde, 1992) in suggesting that people prefer to receive feedback that is congruent with their own beliefs.

**Is avoidance related to perceptions of supportive behavior as more intrusive and less helpful?**

This study did not demonstrate a connection between attachment avoidance and ratings of partner behavior as intrusive. However, one reason that this may have been the case is because the nature of the partner's behavior in the interaction was generally subtle and unobtrusive, occurring in the form of only two messages (one of which was simply a greeting). In fact, the mean rating of intrusiveness was merely 14.46 (15.93 in the support condition and 12.97 in the no support condition) out of a scale ranging from 0 to 100. Therefore, it is likely that the absence of the predicted effect of avoidance on intrusiveness may be the result of a floor effect.

Ratings of helpfulness were examined as representing the other end of the spectrum from intrusiveness when it comes to providing insight the degree to which individuals are accepting and/or welcoming of supportive (or other) behaviors. Looking at the impact of the attachment dimensions on these ratings revealed that the negative association between avoidance and perceived helpfulness did not reach significance. The direction of this finding is consistent with the more general, related expectations of avoidant individuals to be less open to and accepting of supportive interactions. However, the fact that the effect did not reach significance in this case may be attributable to insufficient activation of the attachment system. Specifically, it is possible that the attachment system was not activated very strongly given that the interaction may not have been sufficiently substantive (as discussed above), the relationship with the interaction partner was minimal (rather than being a closer relationship or even an attachment figure), and the situation was relatively low in stressfulness. Therefore, given the nature of the situation, it is possible that the attachment system was not activated to the extent necessary for the effects of attachment-related working models to become more apparent.

**Do past experiences of support influence decisions that differentially avoid or allow the potential for support?**

The findings of the present research support the idea that more negative experiences in previous interactions with a potential support provider are associated with a decreased desire to enter into situations that involve the potential of support receipt from that individual. Specifically, ratings of

intrusiveness by one's support provider contributed adversely to the decision to work with a partner in a subsequent task. Although the other predictors did not significantly affect decisions to work alone or with a partner in this study, it is possible that their effects would have emerged in a richer supportive context. For example, change in negative emotion was minimal ( $M = -0.30$  on a scale ranging from -3 to 3 with 0 indicating no change,  $SD = 0.61$ ) and perceived negative evaluations were relatively low as well ( $M = 20.27$  on a scale ranging from 0 to 100,  $SD = 24.22$ ). Had the situation contributed to more negative responses, their effects on support seeking decisions may also have become more apparent.

**Do attachment-related working models continue to affect memory for experiences of support beyond their initial effects?**

The present work found some evidence that attachment-related beliefs impact memories of experiences during previous interactions. Specifically, the findings for those who demonstrated explicit recall of the first part of the study revealed that avoidance was associated with recollections of experiencing more negative emotions after adjusting for the post-task levels of negative emotion reported at the time (in Part 1 the study). Avoidance was also associated with memories of less helpful behavior on the part of the partner amongst those who did not demonstrate evidence of explicit recall. What is interesting about these effects is not only that attachment does continue to impact memory for experiences beyond its immediate effects in the original moment but also that the tendency for increasing avoidance to be associated with memories of

experiencing more negative perceptions seems to align with the goals associated with avoidance. Specifically, negative emotions are consistent with the goal of deactivation of the attachment system for avoidant individuals and may contribute to the ongoing desire to maintain interpersonal distance and independence. In addition to the research discussed earlier in the present work that provides evidence for links between attachment and memory, the association between avoidance and recall of more negative emotion is also consistent with the literature suggesting that the deactivating tendencies amongst those high in avoidance may undermine regulation of negative emotions and, therefore, contribute to sustaining such negative feelings (see Mikulincer & Shaver, 2007).

### **Is the recall of specific memories related to attachment-related anxiety and avoidance?**

In Part 2 of the study, participants who had participated in Part 1 were asked to think back to their experiences in the previous study 5-7 days after having completed it. Using a checklist, they were asked to recall which items they remembered occurring during the last session. Exploratory analyses examined how the dimensions of attachment security/insecurity related to participants' recollections of their past experiences. A general pattern emerged providing evidence that avoidance is related to a decreased likelihood of reporting memories of receiving help. On the other hand, anxiety was associated with an increased tendency to report one's partner having done something nice for no particular reason. Interestingly, there was some evidence that these

tendencies did not vary as a function of support condition. As a whole, this suggests that the attachment-related dimensions influence both correct recall of occurrences (or their absence) as well as inaccurate recollections. The tendency for those higher in anxiety to demonstrate an increased propensity for recalling nice behaviors by their partners, both in their presence and absence, and for those higher in avoidance to believe that these same behaviors had not taken place, again both correctly and incorrectly, is consistent with the desires or goals of each type of individual. Specifically, the strong desire for closeness and support exhibited by anxious individuals and the aversion to these things demonstrated by avoidant people are consistent with their tendencies for remembering the occurrence and absence of events.

**Closing Remarks.** Within the context of an alleged interaction with another individual in an online partner-based activity, this study provided additional evidence for the importance of working models of attachment in shaping experiences of interpersonal interactions. Even where the findings did not align with the predictions (specifically, Hypothesis 1b relating to the relationship between anxiety and negative reactions to perceived negative evaluations), the results nonetheless draw attention to the importance of attachment-related beliefs in appraisals of supportive interactions. As with the previous study, this work again demonstrates some evidence that past experiences of support influence openness to its receipt as indicated by a willingness to enter into situations likely to entail support receipt. Moreover, Study 2 also went beyond that examined in Study 1 by also investigating the role

of attachment beliefs in biasing memory for previous experiences, revealing that memories for experiences were influenced by attachment-related beliefs over time in ways that parallel the goals associated with the relevant working models.

Despite some evidence for the hypothesized effects of attachment on experiences in supportive interactions, it is also apparent that there were several predictions that were not supported by the results of this study. In portions of the above discussion, I point to possible explanations related to the design of this study that might have contributed to a lack of support for some of the hypotheses in this particular situation. Overall, I believe that the nature of the interaction that occurred in this study may explain why I did not find more support for the hypothesized roles of attachment-related beliefs. Specifically, the design of the present work may not have sufficiently activated the attachment system to the degree that would be necessary to observe its potential effects. The literature suggests that the attachment system is most likely to be activated and its effects most apparent under certain conditions including situations those that are experienced as threatening or stressful and in the context of interactions with close others. The experiences of participants in Study 2 would not be considered very stressful and the situation involved a previously unknown individual with whom the extent of the relationship could be expected to involve one additional interaction, at most. Furthermore, the nature of the help provided to those who received it was relatively subtle and may not have resulted in interpretations of the act as especially supportive. For these reasons, it would be beneficial to make changes to the design of this study for future work. Specifically, the



general design of the study could be improved by making changes that should contribute to the activation of the attachment system. This might be done by asking participants to participate with another individual with whom they are already involved in an ongoing close relationship and by adding a component of stress to the situation (perhaps by including incentives to perform well, such as rewards or punishments, that are contingent upon performance). Additionally, augmenting the supportive nature of the partner behavior (e.g., allowing for more instances of support or designing behavior that is more clear in its helpful intent) would also contribute to detecting any effects of the attachment-related dimensions on experiences in supportive interactions.

Taken as a whole, the findings of this study provide some evidence of the influential role of internal working models as a lens through meaning is attributed to supportive experiences and of the dynamic interplay between past, present, and future experiences in influencing perceptions of and behaviors surrounding enacted support. However, improvements to the present design may be valuable in contributing to an even better understanding of the effects of attachment in experiences related to support.

## **Chapter 4: General Discussion**

This present work set out to achieve a number of goals. In order to contribute to a more comprehensive understanding of the mechanisms that drive reactions to enacted support, one of the primary goals of the present work was to investigate the role of attachment-related working models in shaping experiences of supportive interactions. More specifically, I aimed to examine the degree to which attachment-related beliefs influence both perceptions of being unfavorably evaluated by a support provider and reactions to this perception. Another central goal was to examine interrelatedness of supportive experiences. This work recognizes support as an ongoing process whereby past experiences shape subsequent support experiences via the beliefs they give rise to. Expectations formed on the basis of past experiences bias perceptions of interactions, guide behaviors that influence the likelihood and nature of future support, and shape memories of past support.

Study 1 contributed to the aforementioned goals by examining how expectations about the experiences one would have within given supportive situations are influenced by attachment-related beliefs. Using an ongoing storyline depicting an interrelated series of events, individuals imagined themselves in specific interactions and answered questions about how they would feel and behave in various situations. Of central concern were ratings of the extent to which the individual would anticipate feeling evaluated, perceptions of the behavior of others as described in the vignette, emotional reactions to the

interactions, and behavioral decisions about preferences for seeking help in a subsequent situation. Study 2 used an online “interaction” with another participant to examine how people would feel in a supposed real-life interaction. Again, the focus was to investigate feelings of evaluation, perceptions of one’s partner’s behavior, emotional responses, and decisions to enter into or evade subsequent situations that would likely involve support receipt. Additionally, this study also examined memories for the experiences within supportive interactions. Together, these studies speak to both the expectations for supportive interactions that likely influence support seeking and support acceptance in real-life situations, as well as the actual experiences people have when they are involved in such situations.

### **Attachment-Related Anxiety and Negative Evaluations (Hypothesis 1a)**

Due to the characteristics associated with attachment anxiety (e.g., preoccupation with relationships and partners, concerns about relationship threat, and heightened threat detection), I predicted that anxiety would be linked to heightened perceptions of being negatively evaluated in the context of supportive interactions. Study 1 provided some support for this hypothesis in Part 1 of the vignette, demonstrating that expectations that one would feel that their significant other would think less highly of them as a result of the given scenario were predicted by attachment-related anxiety. Study 2 findings revealed a significant interaction between anxiety and avoidance for those who received support from their partners. This interaction provides some evidence for the importance of anxiety in perceptions of being negatively evaluated, but,

importantly, in this case, the role of anxiety depended on levels of avoidance such that increasing avoidance strengthened the relationship between anxiety and perceived negative evaluations.

While the present work offers inconclusive evidence to support the hypothesized effect of anxiety on both expectations and experiences of feeling unfavorably evaluated, there is reason to believe that anxiety does play a role in shaping perceptions of negative evaluations by others, although its effect may depend on other contextual (e.g., relationship with interaction partner) and individual (e.g., levels of attachment-related avoidance) factors. In comparing the results of the two studies, it is interesting to note that avoidance (in its interaction with anxiety) emerged as a predictor of feelings of negative evaluations in the support condition of the supposed real-life interaction in Part 1 of Study 2 while the findings from Part 1 of Study 1 suggested that avoidance attenuated the positive relationship between anxiety and negative evaluations in the no support condition of the hypothetical interactions. The plot of the results shown in Figure 11 demonstrates that for those with low levels of anxiety, increasing avoidance was associated with decreased perceptions of being negatively evaluated, suggesting that dismissive avoidants tended to report relatively low levels of perceived negative evaluations. This pattern is consistent with the literature suggesting that avoidance is related to suppression and/ or denial of emotions (see Mikulincer & Shaver, 2007). However, when anxiety and avoidance were simultaneously high, increasingly avoidant individuals no longer reported attenuated emotional reactions relative to their less avoidant

counterparts and, in fact, the opposite was the case. On the other hand, this pattern did not emerge in the hypothetical situation presented in Part 1 of Study 1. In fact, Figure 7 demonstrates the opposite effect of avoidance on the relationship between anxiety and negative evaluations in the no support condition of Study 1.

Although I recognize that there are a number of differences between the interactions in Studies 1 and 2 (e.g., relationship type, stressor, context), one factor that may be important is the hypothetical as opposed to real-life nature of the situations, which may evoke different responses. One reason for this discrepancy between imagined and experienced interactions may be that the tendency of avoidants to suppress or deny negative experiences in their interactions is less effective when individuals are immersed in situations that play into their fear of rejection. Hypothetical situations may provide enough distance from the actual experience to be less threatening, whereas greater threat might be present in an actual experience. Given research suggesting that activation of the attachment system in response to relationship threat can impose a cognitive load amongst those high in attachment-related anxiety (Stanton & Campbell, 2014), it is possible that the ostensible interaction in Study 2 inflicted greater cognitive load amongst anxious individuals in Study 2 relative to Study 1. Combined with evidence that the ability of avoidant individuals to suppress undesirable thoughts may be disrupted under cognitive load (Mikulincer, Dolev, & Shaver, 2004), this would suggest that (to the extent that the interaction in the latter study imposed greater threat) those simultaneously high on both

attachment-related dimensions may have been particularly vulnerable to negative perceptions in Study 2. Future work will be needed to further investigate whether cognitive load may play a role in explaining the differences in the predictors of perceived negative evaluations in hypothetical compared to real-life interactions.

### **Anxiety, Negative Evaluations, and Negative Emotions (Hypothesis 1b)**

Within both studies, I expected that anxiety would be related to more negative emotional reactions to the perception of negative evaluations. This hypothesis was not supported by the data in either study. However, there was some evidence of a link between perceptions of negative evaluations and more negative emotions. This particular finding is consistent with research by Bolger and Amarel (2007) demonstrating a link between “reflected appraisals of inefficacy” (which is equivalent to what I refer to as perceived negative evaluations) and more negative reactions to support. This adds to the literature further evidence of negative evaluations as a factor that gives rise to negative emotional reactions to support.

Regarding the hypothesized relationship between negative evaluations and anxiety in predicting more negative emotional reactions to support, Study 1 did not provide any evidence of the anticipated interaction between negative evaluations and either attachment-related dimension. On the other hand, Study 2 revealed an interaction between anxiety and unfavorable evaluations in the opposite direction to that which was predicted, such that heightened levels of anxiety were associated with a stronger negative relationship between perceptions of unfavorable evaluations and negative emotion. Conversely,

avoidance interacted with unfavorable evaluations in predicting negative emotions such that, as avoidance increased, the relationship between negative evaluations and negative emotions became increasingly positive. In the previous sections, I touched upon possible explanations for the findings when considered separately for each study. However, additional insight into understanding the support process can also be gained by considering the relationship between predicted and actual feelings in supportive interactions.

When comparing the findings for Studies 1 and 2 with regard to the predictors of negative emotional reactions, both provide some evidence for the role of perceived negative evaluations in contributing to more negative emotional reactions. The hypothetical scenario in the first part of Study 1 suggested a main effect of negative evaluations in predicting anticipated negative emotions. This effect did not vary as a function of the attachment-related dimensions, suggesting that people generally anticipated that feeling negatively evaluated would adversely affect their emotional state. In contrast, emotions reported following the online interaction in Study 2 provided evidence that reactions to perceived negative evaluations depended on attachment style in such a way that implied a preference for a match between the self-evaluations suggested by one's attachment-related beliefs and the evaluations of their partner. Thus, although people did not seem to account for the potential effect of their attachment-related beliefs when forecasting their emotional responses to negative evaluations in the first part of Study 1, Study 2 found that the attachment-related dimensions did, in fact, interact with perceptions of negative evaluations in shaping emotional

reactions to the partner-based activity. To the extent that the findings across these two studies more generally represent expectations for and reactions to supportive interactions, these results fit with the work of Tomlinson, Carmichael, Reis, and Aron (2010) who found that, although emotional reactions to relational events varied as a function of attachment anxiety, anxiety was not related to the predictions people made when forecasting their emotional experiences. Since expectations for experiences in supportive interactions are likely to shape openness to support receipt, evidence demonstrating these types of systematic discrepancies between predicted and actual experiences in interactions suggests that inaccuracies in expectations may give rise to suboptimal decisions related to enacted support. Specifically, people may choose to avoid or seek support based on expectations for positive or negative outcomes that do not align with the experience they are likely to have (as a result of the fact that their predictions do not account for the role of attachment in shaping their experiences).

### **Attachment-Related Avoidance and Perceptions of Intrusiveness**

#### **(Hypothesis 2)**

I also predicted that, due to the preference for independence and self-reliance that characterizes those high in avoidance, attachment-related avoidance would be positively related to perceptions of interaction partners' behaviors as intrusive and negatively related to ratings of helpfulness. This expectation was largely supported. In Study 1, across both parts of the vignette that involved potentially supportive interactions, the results revealed the predicted positive main effect of avoidance on ratings of intrusiveness as well as



a negative effect on ratings of helpfulness. In Study 2, the lack of an effect of avoidance on ratings of intrusiveness and helpfulness may have been due to situational factors related to the subtle nature of the support. A richer supportive interaction may have been critical to finding the anticipated link between avoidance and a propensity to appraise support in ways that reflect more negative views about its utility and receipt.

Evidence found in Study 1 supporting the link between avoidance and perceptions of intrusiveness and helpfulness adds to the literature demonstrating that appraisals of supportive interactions are influenced by working models of attachment (Collins & Feeney, 2004). Importantly, this research makes a valuable contribution as one of a relatively small number of studies (notably, Collins & Feeney, 2004) that examine how perceptions of support vary as a function of attachment while experimentally controlling the nature of that support. Given evidence suggesting that attachment security may be related to actual differences in that nature of support that one receives (e.g., Collins & Feeney, 2004; Rholes, Simpson, Campbell, & Grich, 2001), studies that hold constant the objective experiences of support are critical to a clearer understanding of the perceptual biases associated with attachment.

### **The Role of Previous Experiences on Subsequent Support (Hypothesis 3)**

In order to examine the interconnectedness of supportive experiences and recognize it as an ongoing process whereby earlier and later experiences are both affected by one another, I looked at how experiences in supportive interactions shape the propensity to seek support or allow for its receipt. In

Study 1, participants were presented with a situation in which support would be highly beneficial, if not considered altogether necessary (i.e., stranded due to a car problem), and they were asked to rate the relative degree to which they would seek help from a variety of different potential providers. Amongst the possible choices were two individuals, a significant other and a coworker, who had been a part of the previous portions of the vignette. I predicted that more negative experiences with a given individual, as reported in the earlier parts of the storyline, would predict a decreased tendency to seek support from that individual in response to the current need for assistance. The findings provided support for this hypothesis when it came to interactions with one's significant other. Specifically, when the significant other was judged as having been more intrusive in a previous interaction, individuals were less likely to seek support from that person. Interestingly, negative perceptions of the previous interactions with the significant other and coworker also influenced other decisions about where to seek support from, with aspects of past experiences increasing the likelihood of seeking support from alternative sources or deciding to forgo seeking help from close others in general, either by using a taxi or deciding not to opt for any help at all. Study 2 provided additional evidence of the link between earlier and later experiences of support by revealing that, amongst those who received support, heightened ratings of the support provider as intrusive decreased the likelihood of wanting to work with one's partner in a future situation that involved a high likelihood of support.

Admittedly, the influence of past experiences on decisions related to the possibility of future support receipt were not as consistent as they could have been. It is possible that the lack of more consistent effects of the predictor variables may be related to the behavioral tendencies of those high in anxiety. Specifically, although the findings demonstrated a link between anxiety and some of the negative perceptions of support that were assessed in the present work, this may not always reduce support-seeking efforts. In fact, some work suggests that the strong desire for closeness may give rise to more intense support seeking amongst those high in anxiety (see Mikulincer & Shaver, 2007). In other words, the desire for closeness among individuals high in anxiety may counteract the negative experiences of prior interactions in terms of its effects on support seeking.

Nevertheless, results from the two studies demonstrate two ways in which past interactions shape future support. In the first study, past experiences shaped expected decisions about active support seeking efforts while, in the second study, they influenced the degree to which individuals chose situations that varied in their propensity to involve support receipt. This is consistent with research demonstrating that individuals play an important role in shaping their own experiences of support through their support seeking behaviors (Collins & Feeney, 2000) and suggests that prior experiences may be influential to decisions regarding seeking or accepting support. To the extent that attachment insecurity is related to more negative perceptions of supportive experiences, this may also help to explain why insecure individuals often tend to seek less support

relative to their secure counterparts (Florian, Mikulincer, & Bucholtz, 1995; Mikulincer, Florian, & Weller, 1993; Rholes et al., 2001). Particularly, given the evidence of a relationship between avoidance and appraisals of support as intrusive and the negative effect of this assessment on decisions to seek support or enter into interactions that will likely involve support receipt, this may be valuable in some cases to understanding the association between avoidance and reduced support seeking that has been documented in past work (Mikulincer & Florian, 1995; Ognibene & Collins, 1998; Rholes et al., 2001). However, it is worth noting that to the extent that negative perceptions of past support do not accurately predict the overall benefits of future instances of enacted support, these beliefs may sometimes contribute to missing out on the potential benefits that might be derived from support receipt.

#### **Attachment and Memories Related to Support Receipt in Previous Interactions (Hypothesis 4)**

Part 2 of Study 2 examined how the attachment dimensions affected the way in which previous (potentially) supportive experiences were recalled, including the nature of emotional reactions that individuals believed they experienced in the moment of those previous situations. Anxiety was associated with an increased propensity to report having been on the receiving end of nice actions by one's interaction partner whereas avoidance was linked to the decreased tendency to recall supportive efforts by on behalf of one's partner. In terms of memories for emotions, there was some evidence that avoidance was associated with an increased tendency to report negative emotions and

decreased ratings of helpfulness. Both the specific tendency for recall of supportive behaviors (or not) and the relationship between avoidance and memories of less favorable reactions that were found seem to parallel the goal of attachment system deactivation for avoidant individuals.

The findings of this work are consistent with other research demonstrating distortions in memories of previous interactions in ways that fit with individuals' working models of attachment. For instance, Simpson et al. (2010) found that, amongst people who were distressed during discussions about relationship conflict, memories a week later revealed that those high in avoidance reported lower levels of supportive behavior relative to their initial reports whereas, compared to ratings immediately following the discussions, highly anxious individuals recalled less emotional distancing. Additionally, across multiple studies, Ein-Dor and colleagues (2011) asked participants to read stories or watch videos which contained either schema-related or neutral information. Altogether, they found evidence of connections between attachment anxiety and better memories related to the sentinel-schema (characteristic of anxious individuals) as well as links between avoidance and enhanced memory for events consistent with the rapid fight-flight schema (characteristic of avoidant individuals). In a study of interactions between parents and their adolescent children where dyads had conflict-related discussions, Feeney & Cassidy (2003) found that attachment insecurity was associated with increasingly negative memories relative to initial reports. These studies align with the present research in providing evidence that working models of attachment influence memories of

both events and emotions. Accumulating evidence demonstrates that attachment-related beliefs shape memories such that they become more congruent with attachment-related expectations over time actions. Thus, this suggests that support experiences, even when they do not fit with the expectations associated with an individual's working models of attachment, are likely not only to be construed in attachment-consistent ways at the time of the occurrence, but also to be remembered as even more consistent relative to initial appraisals. Such processes are likely to contribute to the maintenance of beliefs related to attachment as well as expectations about supportive interactions over time.

### **Attachment and Effect Size**

In order to understand the influence of attachment on supportive interactions, it can be useful to consider the magnitude of the effects revealed by the findings. Partial eta-squares were reported for each effect for which it was possible to do so. In general, the effect sizes suggest that the attachment dimensions explained a somewhat small proportion of the variance when examining reactions to the interpersonal interactions involved in the present work. Where attachment dimensions had significant effects on perceptions of one's interactions, they most often explained between 1% to 2% of the variance, although there were a number of instances where the effect sizes were larger. As a point of comparison, significant main effects of support on ratings of helpfulness explained anywhere from approximately 16-55% of the variance. Nevertheless, while the effect sizes associated with the attachment-related

dimensions are not very big, this is not to discount their importance. The ESI model (Burke et al., 2013) highlights the fact that reactions to supportive interactions are multiply determined, with a number of factors suggested to contribute to the active beliefs that shape cognitive interpretations of one's interactions. Although the effect sizes of the attachment dimensions do not account for a larger proportion of the variance in the instances reported for the present studies, the findings suggest that they do play a role as one of a number of possible factors in the process. Furthermore, the findings related to memories of one's interaction suggest that avoidance may account for over 10% of the variance in recall of negative affect. The much larger effect found here supports the argument that the impact of attachment on experiences of support may be exacerbated over time. Furthermore, the small effects found in the present research do not necessarily indicate the true influence of attachment when considering the bigger picture. The ESI model underscores the importance of thinking of supportive experiences as part of a feedback process. Therefore, if every interaction is slightly affected by attachment-related beliefs, it may nonetheless be the case that, with the accumulation of events over time, they might still have a considerable impact. Thus, although the effect sizes reported for significant findings within the present work tended to be somewhat small, this doesn't mean that the influence of working models of attachment in shaping experiences of supportive interactions are in any way trivial.

## **Social Support as a Process**

The Experiences in Supportive Interactions model (Burke et al., 2013; see Figure 1) presents support as an interconnected set of experiences whose interpretations are influenced by individual and contextual factors that shape the active beliefs of an individual and subsequently act as a lens through which meaning is ascribed. Furthermore, the model suggests that such experiences feed back into beliefs and expectations for subsequent interactions and, thereby, work in a variety of ways to influence the occurrence and interpretations of those future events as well.

The present research provides considerable evidence to support the premises of the ESI model. First, the influence of attachment-related beliefs on perceptions of interactions provides evidence for the idea that differences in active beliefs shape construals of supportive interactions. In the present work, working models of attachment were influential with regard to interpretations of the degree to which interaction partners formed unfavorable evaluations of the individual in the context of their interactions as well as interpretations of behaviors as intrusive or helpful. The results of this work also suggested that attachment influenced emotional reactions to supportive interactions. Evidence suggesting the importance of attachment-related beliefs in perceptions of support more generally underscores the role of individual differences in shaping the unique experiences that people have within supportive interactions.

Furthermore, support for the model is also evident in findings demonstrating the interrelations amongst the experiences in a given interaction



and ensuing decisions that shape the nature or extent of support available to the individual. In Study 1, expectations for experiences in hypothetical scenarios shaped support seeking behavior. In Study 2, actual perceptions of interactions contributed to the willingness to enter into situations that varied in the likelihood with which support receipt would occur. The decisions that shape the support that individuals predispose themselves to receiving is then likely to shape whether any support occurs and, if so, what the nature of it will be.

Additionally, this work provides evidence that working models of attachment, functioning as active beliefs through which support is interpreted, continue to have an impact on memories of supportive interactions beyond their initial effects. This adds even more evidence to argument that support must be thought of as existing in an interconnected network of experiences shaped by the active beliefs of the individual. To the extent that researchers try to understand experiences of support separate from the factors that continually shape interpretations of these experiences, the conclusions drawn from such work will suffer in terms of its generalizability in real-world contexts.

Supporting the premises of the ESI model, this work contributes in an important way to the understanding of support processes as an interactive and interrelated series of events rather than isolated instances. This highlights the importance of taking a broader perspective when trying to understand how people react to support receipt. Furthermore, it shows that reactions in supportive interactions are not simply an outcome of a given situation but also a product of past experiences and a contributor to subsequent ones.

## **Open Question, Limitations, and Future Directions**

Although the present research partially supported many of the hypotheses I proposed, this work has some limitations that leave open several unanswered questions.

**Thinking about support versus experiencing it.** One question that remains at the forefront is whether expectations for supportive interactions and actual experiences tend to follow the same patterns when it comes to the relationships between attachment-related dimensions and feelings of negative evaluation. This research aimed to examine expectations for support as well as real-life experiences of it in order to gain a more thorough understanding of whether both demonstrate the same findings as predicted by the hypotheses. However, a comparison of the results across the two studies shows that while there are similarities, there are also several differences. Some research suggests that expectations for imagined hypothetical situations do not always align with actual experiences (Tomlinson et al., 2010). Research on affective forecasting demonstrates that people are prone to a number of errors when making predictions about their emotional reactions (Wilson & Gilbert, 2003). Wilson and Gilbert (2003) suggest as a possibility that people may be error-prone when it comes to affective forecasting for situations that are likely to involve a complex mixture of emotions, especially when the circumstances are likely to give rise to both positive and negative emotions. Given evidence that support

can simultaneously engender positive and negative emotions,<sup>20</sup> predictions related to such interactions may be particularly vulnerable to errors as a result of the complexity of these situations.

In the present work, the number of differences between the two studies make it difficult to draw conclusions about the mechanisms that drive the observed differences between the real and imagined scenarios. For example, it is not possible to make conclusions regarding whether it was the different nature of the situations in the vignettes versus real-life interactions that drove somewhat different results, differences in the relationship between the provider and recipient (discussed below), or whether the divergence is driven by disparities between forecasting and actual experiences. Therefore, in future work, it would be interesting and informative to do a longitudinal forecasting study or to create vignettes and real-life experiences that mirror one another and even include the same individuals across both to get a more complete picture of the extent to which expectations for experiences in supportive interactions relate to actual experiences. Understanding the connection between anticipated and experienced outcomes that occur in response to supportive interactions is important to determining whether the support-related decisions that people make

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<sup>20</sup> For example, enacted support can give rise to both positive relational and negative personal implications. This mix of supportive and threatening information has been demonstrated a number of times, and these appraisals of support have often been found to occur simultaneously (Burke, 2009; Burke & Goren, 2014; Fisher et al., 1982; Gleason et al., 2008). Likewise, as discussed earlier, attachment anxiety is sometimes associated with ambivalence whereby individuals have concurrent experiences of positive and negative emotions in relation to supportive interactions (Mikulincer & Shaver, 2007).

for themselves are likely to be to their ultimate benefit. If expectations vary from experiences to a reasonable degree, interventions that improve forecasting abilities may be useful in enabling people to make more advantageous decisions when it comes to mobilizing their supportive resources.

**Nature of the relationship between support provider and recipient.**

The studies included in the present research involved interactions with a variety of relationship partners (i.e., significant other, coworker, previously unknown online partner). In the activity involved in Study 2, participants “interacted” online with a stranger that they had never met before. Although I tried to make this person and the “relationship” to him or her more meaningful by telling individuals that they were matched with someone based on their responses to previous questions and that they would interact with them on multiple tasks, the relationship was still relatively inconsequential in nature when compared to the ongoing relationships that are often present between a support provider and recipient. Therefore, it is important to consider the possibility that one’s perception of the nature of their relationship with a support provider may influence reactions to support receipt. Clark and Mills (Clark & Mills, 1979; Clark & Mills, 2011; Mills & Clark, 1982) suggest that nature of expectations regarding how benefits are exchanged depends on whether a given relationship is categorized as communal or exchange by its members. An exchange relationship involves expectations for reciprocity in which equivalent benefits are expected to be exchanged in a give-and-take manner. A communal relationship, on the other hand, involves the exchange of benefits on an “as-needed” basis,

with benefits driven by an interest in the other's welfare. Beliefs or desires about the type of relationship that individuals have with each other govern their expectations or preferences for the exchange of benefits and, subsequently, reactions to exchanges of support. If support provision departs from what is considered acceptable within the relevant type of relationship, this mismatch may be met with less favorable reactions. Expectations related to exchange may determine whether support is appropriate and what, if anything, is expected of the recipient in return. For instance, in a relationship characterized as an exchange relationship, support receipt may lead to feelings of indebtedness. In Part 1 of Study 2, which did not allow for the participant to communicate with his or her "partner," the receipt of support without the ability to reciprocate may have engendered feelings of indebtedness if the relationship was seen as an exchange relationship. In order to understand more about how the dynamics of the relationship between the support provider and recipient played a role in the perceptions related to the interaction, it would be beneficial for future work to control relationship type across different situations as well as to manipulate communality experimentally (as was done in Clark & Mills, 2011; Clark, Oullette, Powell, & Milberg, 1987).

In addition to differences in the expectations for the affordance of benefits, the nature of the provider-recipient relationships may also influence reactions to support receipt in other ways. For example, more developed relationships are likely to involve richer, more relationship-specific attachment-related beliefs that shape expectations for the relationship. Whether the effects of attachment on

feelings of evaluation change along with relationship type is something that would be important to consider in future work. Since attachment-related beliefs are likely to vary to some extent between individuals and across different relationship orientations, it is important to examine how these factors impact the relationship between attachment, perceptions of evaluation, and emotional and behavioral reactions in response to such beliefs.

**Understanding the link between attachment and experiences of support.** Bowlby asserted that “each individual builds working models of the world and himself in it, with the aid of which he perceives events, forecasts the future, and constructs his plans” (Bowlby, 1973, p. 203). The findings of the present research support this idea in several ways. Still, in gaining a thorough understanding of the outcomes related to attachment, it is beneficial to consider exactly what it is that is driving the observed effects. By controlling for a number of covariates, including self-esteem, depression, and pessimistic attributional style, this work demonstrates that the observed effects cannot be accounted for by the more general personality measures that were controlled for in the analyses. This supports the idea that it is, in fact, an individual’s working models of attachment that are acting to influence his or her perceptions of their experiences. In his work, Bowlby suggested that working models of attachment include beliefs about "(a) whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection; [and] (b) whether or not the self is judged to be the sort of person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful

way” (p.204). Based on the findings, it seems likely that it is the *specific beliefs about support availability and quality* contained within the internal working models that are important to the interpretation of one’s supportive experiences, rather than other qualities or characteristics that may correlate with attachment. In order for future work to address more specifically whether it is these support-related beliefs that go beyond the covariates to exert the effects related to working models of attachment, future work should include measures of perceived support as a potential mediator between attachment and the outcomes related to it.

## **Conclusion**

The present work aimed to examine how attachment style influences the experiences and consequent outcomes associated with support by examining multiple parts of the support process outlined by the Experiences in Supportive Interactions model (Burke et al., 2013). It was expected that both attachment anxiety and avoidance would play influential, but unique, roles in shaping the interpretation of meaning from supportive interactions. This work adds to growing evidence demonstrating the importance of attachment style in shaping experiences related to supportive interactions while showing specifically that attachment-related beliefs influence expectations for and experiences of being evaluated in supportive contexts, perceptions of intrusiveness and helpfulness, emotional and behavioral reactions to these types of perceptions, and even memory for such experiences.

These studies make valuable contributions in several ways. To my knowledge, this work is the first to examine the relationship between attachment-related beliefs and perceptions of negative evaluations during supportive interactions, helping to fill a significant gap in the literature and providing original insights towards understanding the mechanisms that drive differential reactions to enacted support. Furthermore, my approach to examining support as a transactional process (consistent with the premises of the ESI model) represents an important development in recognizing the interrelatedness of real-world experiences of support rather than examining distinct instances that are treated as unrelated to other supportive events. By drawing attention to the fact that perceptions of support are both shaped by one's past history of interactions and subsequently influence future experiences in an ongoing feedback process, this adds to a more comprehensive understanding of the mechanisms that drive the meaning ascribed to supportive interactions and the reactions that go along with such interpretations.

In addition to its academic contributions, this work also has important societal implications by contributing to a better understanding of the conditions under which support will be helpful in mitigating negative outcomes versus when it is likely to engender undesirable consequences for the recipient. Evidence suggests that support interventions have often been ineffective in reaching their intended goals (Cohen & Janicki-Deverts, 2009; Veenstra et al., 2011). One potential explanation for these disappointing outcomes may be that many focus on training partners to provide more effective support. It is possible that the



tangible benefits imparted to the recipient by means of improved support may be counteracted by negative reactions amongst those who interpret the support unfavorably. The findings of the present work and additional research that builds upon it may contribute to the development of more effective intervention strategies that take into account the way that individuals cognitively construe the support that they receive. Because of the links between support and well-being, knowledge that enhances the outcomes associated with support is highly valuable.

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## Appendix A

### Vignettes used in Preliminary Study 1

(Vignettes presented in random order.)

Instructions: Imagine yourself in each of the following situations. After each, you will be asked several questions about the types of thoughts and feelings you would expect to have in that situation.

1. Recently, you have been working around the clock at your internship to try and secure a job with the company after graduation. You really want the position and think it would positively impact your future. For this reason, you have been unable to keep up with your normal household chores. When you get home, you find that your roommate has done some of the chores that you are generally responsible for doing yourself.
2. You chose to take an elective class this semester just because you are interested in the topic, but you are really struggling in the course. Your friend, whose major is closely related to your elective and who took the class last semester, offers to tutor you for your next exam. Your friend spends several nights helping you study for the test during the week preceding the exam.
3. You often carpool with a friend to the gym before going into work together afterwards. One day when your friend is driving the two of you to work from the gym, you realize that you left your wallet at the gym. Although you might both be late for work if you go back to the gym for your wallet, your friend drives back to the gym so that you can get it.
4. You were assigned to a new project at work. However, you are really struggling with some of the tasks that you are responsible for as a part of the project. When your coworker asks about your progress, you confess that you are having a difficult time. Your coworker offers to have a look over what you are working on to help you find where you might be going wrong and to help you resolve the issues you are having.
5. In order to get your driver's license renewed you need to get to the DMV. The week before you need to renew your license, your car has some mechanical troubles that land it at the mechanic for the entire week. Because you left the renewal until the last minute, you must find another way to get to the DMV since you cannot drive yourself this week. A coworker offers to drive you even though it will likely take more than an hour with the typical lines at the DMV.

## Vignettes used in Preliminary Study 2

(Vignettes presented in random order.)

Instructions: Imagine yourself in each of the following situations. After each, you will be asked several questions about the types of thoughts and feelings you would expect to have in that situation.

1. Recently, you have been working around the clock at your job to try to get a promotion. You really want the position and think it would positively impact your future. For this reason, you have been unable to keep up with your normal household chores. When you get home, you find that your significant other has done some of the chores that you are generally responsible for doing yourself.
2. While driving over to meet a friend, you get a flat tire. You pull over to the side of the road to try to change the flat but you are having major difficulty in your attempts. Your friend calls you to see where you are and you describe what happened. A little while later, your friend shows up and helps you change the tire.
3. You often carpool with a friend to the gym before going into work together afterwards. One day when your friend is driving the two of you to work from the gym, you realize that you left your wallet at the gym. Although you might both be late for work if you go back to the gym for your wallet, your friend drives back to the gym so that you can get it.
4. You were assigned to a new project at work. However, you are really struggling with some of the tasks that you are responsible for as a part of the project. When your coworker asks about your progress, you confess that you are having a difficult time. Your coworker offers to have a look over what you are working on to help you find where you might be going wrong and to help you resolve the issues you are having.
5. In order to get your driver's license renewed you need to get to the DMV. The week before you need to renew your license, your car has some mechanical troubles that land it at the mechanic for the entire week. Because you left the renewal until the last minute, you must find another way to get to the DMV since you cannot drive yourself this week. A coworker offers to drive you even though it will likely take more than an hour with the typical lines at the DMV.

## Appendix B

### Modified Short Form of the Expanded Attributional Style Questionnaire (ASQ-S; Whitley, 1991)

Instructions: Please try to vividly imagine yourself in the situations that follow. If such a situation happened to you, what would you feel would have caused it? While events may have many causes, we want you to pick only one- the major cause if this event happened to you. Please write this cause in the blank provided after each event. Next we want you to answer some questions about the cause and a final question about the situation. To summarize, we want you to:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the major cause of the situation if it happened to you.
3. Write one cause in the blank provided.
4. Answer three questions about the cause.
5. Answer one question about the situation.
6. Go on to the next situation.

Your best friend tells you that you are not to be trusted.

1. Write down the one major cause: \_\_\_\_\_
2. Is the cause of not being trusted due to something about you or to something about other people or circumstances?  
Totally due to other people or circumstances    1    2    3    4    5    6    7    Totally due to me
3. In the future when someone does not trust you, will this cause again be present?  
Will never again be present    1    2    3    4    5    6    7    Will always be present
4. Is the cause something that just influences being trusted or does it also influence other areas of your life?  
Influences just this particular situation    1    2    3    4    5    6    7    Influences all situations
5. How important would this situation be if it happened to you?  
Not at all important    1    2    3    4    5    6    7    Extremely important

Both of the following scenarios are used following the same question format as the example above (altered for each to fit the specific scenario):

- Your best friend tells you that you are not to be trusted.
- Your attempt to capture the interest of a specific potential romantic partner\* is a failure.

\_\_\_\_\_

\* Wording changed from "member of the opposite sex" to "potential romantic partner" in order to be applicable to a more complete range of individuals

## Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977)

Instructions: Below is a list of ways you might have felt or behaved. Please indicate how often you have felt this way in the past week.

Rarely or None of the Time (Less than 1 Day)

Some or Little of the Time (1-2 Days)

Occasionally or a Moderate Amount of Time (3-4 Days)

Most or All of the Time (5-7 Days)

During the past week:

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get "going."

## Rosenberg Self-Esteem Scale (Rosenberg, 1965)

### Instructions:

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.  
Strongly Disagree      Disagree      Agree      Strongly Agree
2. At times I think I am no good at all.  
Strongly Disagree      Disagree      Agree      Strongly Agree
3. I feel that I have a number of good qualities.  
Strongly Disagree      Disagree      Agree      Strongly Agree
4. I am able to do things as well as most other people.  
Strongly Disagree      Disagree      Agree      Strongly Agree
5. I feel I do not have much to be proud of.  
Strongly Disagree      Disagree      Agree      Strongly Agree
6. I certainly feel useless at times.  
Strongly Disagree      Disagree      Agree      Strongly Agree
7. I feel that I'm a person of worth, at least on an equal plane with others.  
Strongly Disagree      Disagree      Agree      Strongly Agree
8. I wish I could have more respect for myself.  
Strongly Disagree      Disagree      Agree      Strongly Agree
9. All in all, I am inclined to feel that I am a failure.  
Strongly Disagree      Disagree      Agree      Strongly Agree
10. I take a positive attitude toward myself.  
Strongly Disagree      Disagree      Agree      Strongly Agree

### Scoring:

Items 2, 5, 6, 8, 9 are reverse scored. Give "Strongly Disagree" 1 point, "Disagree" 2 points, "Agree" 3 points, and "Strongly Agree" 4 points. Sum scores for all ten items. Keep scores on a continuous scale. Higher scores indicate higher self-esteem.

**Experiences in Close Relationships (ECR-R; Fraley, Waller, & Brennan, 2000)**

Instructions: The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current romantic relationship. Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

		Strongly disagree						Strongly agree
1	When my partner is out of sight, I worry that he or she might become interested in someone else.	1	2	3	4	5	6	7
2	When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	1	2	3	4	5	6	7
3	Sometimes romantic partners change their feelings about me for no apparent reason.	1	2	3	4	5	6	7
4	My romantic partner makes me doubt myself.	1	2	3	4	5	6	7
5	My partner really understands me and my needs.	1	2	3	4	5	6	7
6	My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
7	It's not difficult for me to get close to my partner.	1	2	3	4	5	6	7
8	It's easy for me to be affectionate with my partner.	1	2	3	4	5	6	7
9	It makes me mad that I don't get the affection and support I need from my partner.	1	2	3	4	5	6	7
10	It helps to turn to my romantic partner in times of need.	1	2	3	4	5	6	7
11	I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	1	2	3	4	5	6	7

		Strongly disagree					Strongly agree	
12	I'm afraid that I will lose my partners love.	1	2	3	4	5	6	7
13	I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
14	I worry that I won't measure up to other people.	1	2	3	4	5	6	7
15	I worry a lot about my relationships.	1	2	3	4	5	6	7
16	I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
17	I tell my partner just about everything.	1	2	3	4	5	6	7
18	I talk things over with my partner.	1	2	3	4	5	6	7
19	I rarely worry about my partner leaving me.	1	2	3	4	5	6	7
20	I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
21	I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7
22	I often worry that my partner will not want to stay with me.	1	2	3	4	5	6	7
23	I often worry that my partner doesn't really love me.	1	2	3	4	5	6	7
24	I often wish that my partner's feelings for me were as strong as my feelings for him or her.	1	2	3	4	5	6	7
25	I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
26	I find that my partner(s) don't want to get as close as I would like.	1	2	3	4	5	6	7

		Strongly disagree					Strongly agree	
27	I find it relatively easy to get close to my partner.	1	2	3	4	5	6	7
28	I find it easy to depend on romantic partners.	1	2	3	4	5	6	7
29	I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7
30	I feel comfortable sharing my private thoughts and feelings with my partner.	1	2	3	4	5	6	7
31	I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
32	I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
33	I do not often worry about being abandoned.	1	2	3	4	5	6	7
34	I am very comfortable being close to romantic partners.	1	2	3	4	5	6	7
35	I am nervous when partners get too close to me.	1	2	3	4	5	6	7
36	My partner only seems to notice me when I'm angry.	1	2	3	4	5	6	7



## Modified Measure of Positive and Negative Affect

Instructions for Study 1 Personal Emotions portion: Consider how you might feel in response to the series of events described above. Using the scale below, rate how much you expect each emotional state to change in response to the series of events:

Instructions for Study 1 Relational Emotions portion: Consider how you might feel in response to the series of events described above. Using the scale below, rate how you expect your feelings about your relationship with the other person to change in response to the series of events:

Scale: Items are rated on a 7-point Likert scale ranging from “much less” to “much more.”

Instructions for Part 1 of Study 2 personal emotions section: This scale consists of a number of words and phrases that describe different feelings and emotions. Please rate the extent to which you are feeling or experiencing each feeling or emotion right now (at the present moment).

Instructions for Part 1 of Study 2, relational emotions section: This scale consists of a number of words and phrases that describe different feelings and emotions that you might feel *with regard to your relationships and interactions with other people*. Please rate the extent to which you are experiencing each feeling or emotion right now (at the present moment).

Scale: Items are rated along a visual analog scale ranging from “not at all” to “extremely.”

### Personal Emotions:

Happy	Angry
Proud	Sad
Confident	Anxious
Energetic	Frustrated
Content	Incapable

### Relational Emotions:

Secure	Misunderstood
Valued	Inadequate
Accepted	Dependent
Supported	Inferior
Loved*	Indebted

---

\* Used in the preliminary studies, but only used in Study 1 of the present work due to the lack of appropriateness of this emotion in non-intimate relationships.

## Appendix C

### Study 1 Vignettes

Instructions: In this study, you will learn about a series of events that occur over the course of a day. As you read about each event, you should imagine yourself in the situation. Try your best to really put yourself in the shoes of the person in the story. What would you be thinking? How would you be feeling? After reading about each event, you will be asked several questions about the types of thoughts and feelings you would expect to have in that situation.

Part 1 (Support Condition): You wake up in the morning and as soon as you glance at the clock, you realize that you have overslept. Unfortunately, today would be a terrible day to be late because you have a big project due at the start of the day and others are counting on you. You scramble to get up, get ready, and get to the bus stop before the next bus leaves (your usual bus has already gone). As it becomes increasingly clear that you won't make the next bus either, your significant other tries to help by making you a coffee to take with you and running out to fill your car with gasoline while you are getting ready so you can drive in today and still make it to work on time. You say goodbye to your significant other and head out the door.

Part 1 (No Support Condition): You wake up in the morning and as soon as you glance at the clock, you realize that you have overslept. Unfortunately, today would be a terrible day to be late because you have a big project due at the start of the day and others are counting on you. You scramble to get up, get ready, and get to the bus stop before the next bus leaves (your usual bus has already gone). As it becomes increasingly clear that you won't make the next bus either, you decide to grab a bottle of ready-made iced coffee from the fridge to take with you and drive in today because it is the only way that you can still make it to work on time. You say goodbye to your significant other and head out the door.

Part 2 (All): In the end, you make it to work in time to complete what you need to do. Afterwards, you spend the next couple of hours doing some work. At lunchtime, you head to the break room to eat your lunch. When you open the lunch you brought from home, you see that your significant other, who sometimes packs lunch for you the night before and often sends something special along when he/she does, put a special treat into your lunch with a note attached that says "I love you! I hope you are having a good day :)"

Part 3 (All): After lunch, you begin working on a new project that you were recently assigned to. Although you were excited about the project, you are finding it quite challenging. Despite your best efforts, you are unable to resolve some of the difficulties you are encountering. A coworker of yours, who is also a close friend, stops by your desk and notices a frustrated expression on your face. The coworker asks what issues you are having with the project and sits down with you while offering some possible suggestions for how you might resolve the issues you are having.

Part 4 (All): While driving home from work, the "Check Engine" light comes on, and a minute later the engine cuts out. You are able to pull off the road, but the car will not start again. It would likely take an hour to walk home from where you are. What do you decide to do?

How likely are you to ask for help from each of the following people?  
(Choices include: Call your significant other to help you out, Call your coworker who is also a close friend to help you out, Call a taxi to drive you home, Call a coworker who lives nearby, Call no one at all, walk home)

## Appendix D

### Study 2, Part 1: Reading the Mind in the Eyes Task

Instructions: <sup>1</sup>

This task measures social intelligence. Individuals who succeed on this task tend to be those who either have strong relational and social skills and/or those who are highly intelligent.

For each set of eyes, choose which word best describes what the person in the picture is thinking or feeling. You may feel that more than one word is applicable but please choose just one word, the word which you consider to be most suitable. Before making your choice, make sure that you have read all 4 words. You should try to do the task as quickly as possible but you will not be timed. If you really don't know what a word means you can look it up in the definition list provided (below). <sup>21</sup>

Example item:

jealous

panicked



arrogant

hateful

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<sup>21</sup> N.B., Some modifications have been made from the original instructions. Most significantly, the first two sentences of the instructions that frame the task are additions that were not part of the original instructions. Additional slight modifications have been made to adjust to the online nature of the task and its formatting.

## Checklist of Interpersonal Behaviors

Instructions: You recently completed a session where you worked with an individual with the username: alex09.

Please think back to your experiences and interactions during that time and check all events that occurred during that session.

(Note: Sometimes people do things for others in response to a perceived need, problem, or difficulty the person is experiencing. This is what we mean by help. However, not everything people do for others is intended to be helpful. Sometimes people do things for others just because they care, not because they think they need help. This is what we mean by doing something nice for no particular reason.)

During the study that I completed in the past week, the following things occurred (check all that apply):

- I completed a task related to social skills
- I completed a task related to intelligence
- I completed a task related to knowledge of historical facts
- I received help from my partner
- I did not receive any help from my partner
- My partner did something nice for me for no particular reason
- I agreed to help someone who was working on a task when they asked me to
- I wanted to receive help from my partner but did not get any
- I received help from my partner even though I did not want it
- I offered to help someone who was working on a task
- I asked someone for help on a task I was working on
- I declined an offer of help
- My partner asked me for help on a task they were working on
- My partner offered me help on a task I was working on without me asking
- My partner agreed to help me on a task I was working on when I asked them to
- My partner interfered with my attempts to manage a problem by myself

N.B., The above tasks will be presented in random order.

Table 1

*Study 1: Pearson correlation coefficients of study variables. N=395*

	Gender	Age	ECR Anxiety	ECR Avoidance	Self- Esteem	Pessimistic Attributional Style	Depression
Gender	1						
Age	-0.12*	1					
ECR Anxiety	0.11*	-0.14*	1				
ECR Avoidance	0.04	0.03	0.56*	1			
Self-Esteem	-0.003	0.08	-0.62*	-0.47*	1		
Pessimistic Attributional Style	0.18*	-0.09	0.23*	0.23*	-0.26*	1	
Depression	0.01	-0.15*	0.59*	0.43*	-0.78*	0.21*	1
Mean	-	35.06	2.90	2.80	31.17	4.29	13.48
SD	-	11.26	1.34	1.28	6.87	0.95	11.25

\* p<.05

Table 2

*Means and standard deviations for each support seeking option in Part 4 of Study 1*

Variable	N	Mean	SD	Minimum	Maximum
Significant Other	395	57.53	27.31	0	100
Coworker	393	5.84	8.26	0	50
Taxi	393	10.75	15.96	0	100
Friend	395	17.45	15.53	0	100
No one	395	8.52	16.46	0	100

Table 3

Study 2, Part 1: Pearson correlation coefficients of study variables. N=371

	Gender	Age	ECR Anxiety	ECR Avoidance	Self-Esteem	Pessimistic Attributional Style	Depression	Importance of Relationships with Friends and Family	Importance of Personal Competence and Intelligence	Importance of Performing Well on the Partner-Based Task
Gender	1									
Age	-0.10	1								
ECR Anxiety	0.05	-0.18*	1							
ECR Avoidance	0.13*	-0.13*	0.63*	1						
Self-Esteem	-0.06	0.15*	-0.57*	-0.49*	1					
Pessimistic Attributional Style	0.07	-0.07	0.20*	0.17*	-0.22*	1				
Depression	0.05	-0.16*	0.60*	0.47*	-0.70*	0.19*	1			
Importance of Relationships with Friends and Family	-0.10*	0.10*	-0.14*	-0.29*	0.18*	-0.22*	-0.14*	1		
Importance of Personal Competence and Intelligence	0.03	0.01	-0.07	-0.05	0.16*	-0.08	-0.05	0.21*	1	
Importance of Performing Well on the Partner-Based Task	-0.10*	0.15*	-0.06	-0.25*	0.14*	0.04	-0.07	0.12*	0.15*	1
Mean	-	33.87	2.81	2.72	31.35	4.36	12.36	4.34	4.49	5.40
SD	-	10.60	1.31	1.20	6.62	0.97	10.97	0.91	0.70	1.55

\* p&lt;.05



Table 4

Study 2, Part 2: Pearson correlation coefficients of study variables. *N*=247

	Gender	Age	ECR Anxiety	ECR Avoidance	Self-Esteem	Pessimistic Attributional Style	Depression	Importance of Relationships with Friends and Family	Importance of Personal Competence and Intelligence	Importance of Performing Well on the Partner-Based Task
Gender	1									
Age	-0.06	1								
ECR Anxiety	0.05	-0.10	1							
ECR Avoidance	0.11	-0.10	0.61*	1						
Self-Esteem	-0.06	0.14*	-0.63*	-0.50*	1					
Pessimistic Attributional Style	0.06	-0.03	0.21*	0.19*	-0.22*	1				
Depression	0.04	-0.12	0.63*	0.44*	-0.75*	0.19*	1			
Importance of Relationships with Friends and Family	-0.15*	0.15*	-0.08	-0.33*	0.19*	-0.25*	-0.12	1		
Importance of Personal Competence and Intelligence	0.11	0.04	-0.08	-0.04	0.14*	0.00	-0.05	0.16*	1	
Importance of Performing Well on the Partner-Based Task	-0.03	0.13*	-0.03	-0.20*	0.07	0.08	-0.01	0.16*	0.17*	1
Mean	-	35.00	2.75	2.67	31.83	4.38	12.08	4.36	4.51	5.43
SD	-	10.92	1.34	1.19	6.41	0.98	10.91	0.89	0.68	1.57

\* *p* < .05

Table 5

Correlations between Actual and Remembered Experiences from Parts 1 and 2 of Study 2. N=247

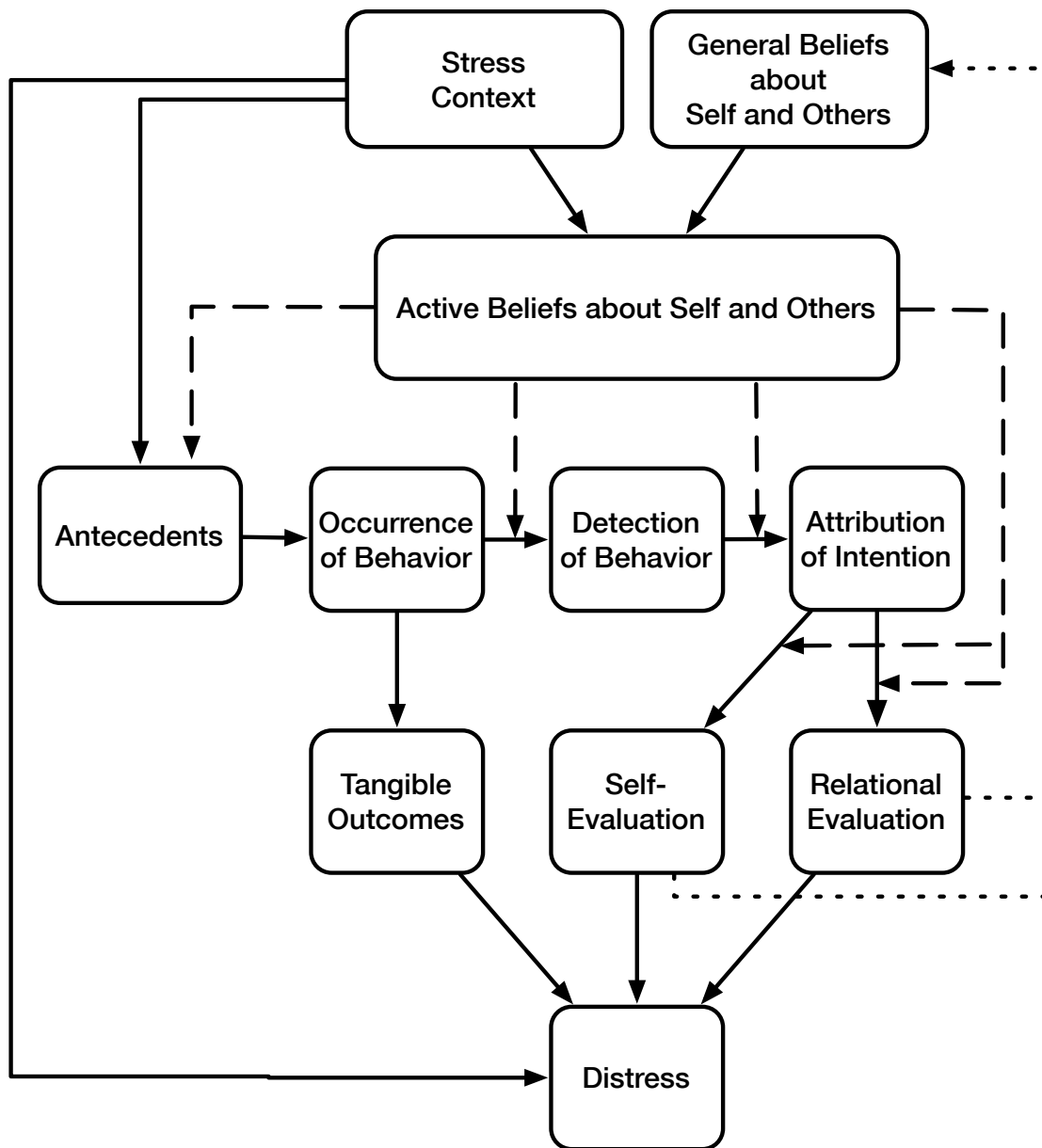
	Part 1 Perceived Negative Evaluations	Part 2 Perceived Negative Evaluations	Part 1 Negative Emotions	Part 2 Negative Emotions	Part 1 Partner Intrusiveness	Part 2 Partner Intrusiveness	Part 1 Partner Helpfulness	Part 2 Partner Helpfulness
Part 1 Perceived Negative Evaluations	1							
Part 2 Perceived Negative Evaluations	0.48*	1						
Part 1 Negative Emotions	0.26*	0.21*	1					
Part 2 Negative Emotions	0.39*	0.38*	0.64*	1				
Part 1 Partner Intrusiveness	0.54*	0.41*	0.24*	0.27*	1			
Part 2 Partner Intrusiveness	0.40*	0.55*	0.16*	0.44*	0.44*	1		
Part 1 Partner Helpfulness	0.10	0.01	0.11	0.11	0.01	0.01	1	
Part 2 Partner Helpfulness	0.09	-0.02	0.10	0.09	0.02	-0.04	0.68*	1
Mean	19.03	21.56	1.73	1.67	13.46	19.65	46.41	47.72
SD	23.72	22.83	0.90	0.84	19.69	22.38	31.38	30.67

\* p&lt;.05

Table 6

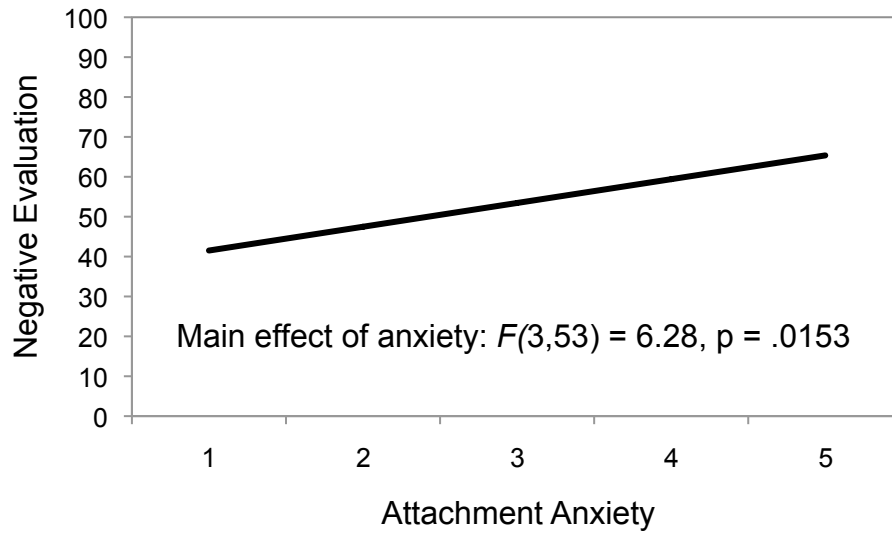
*Rates of endorsement for checklist items discussed in Part 2 of Study 2.*

Item	Number of participants who endorsed the item		
	Total	Support Condition	No Support Condition
I received help from my partner	113	86	27
I did not receive any help from my partner	62	6	56
My partner did something nice for me for no particular reason	39	26	13
I wanted to receive help from my partner but did not get any	20	3	17
I received help from my partner even though I did not want it	39	31	8
My partner offered me help on a task I was working on without me asking	88	68	20



*Figure 1.* The Experiences in Supportive Interactions (ESI) model. Solid lines show tangible and cognitive pathways from supportive behaviors to distress. Dashed lines show moderation of cognitive pathways by active beliefs about self and others. Dotted lines show feedback of current self- and relational evaluations to general beliefs about self and others.

a)



b)

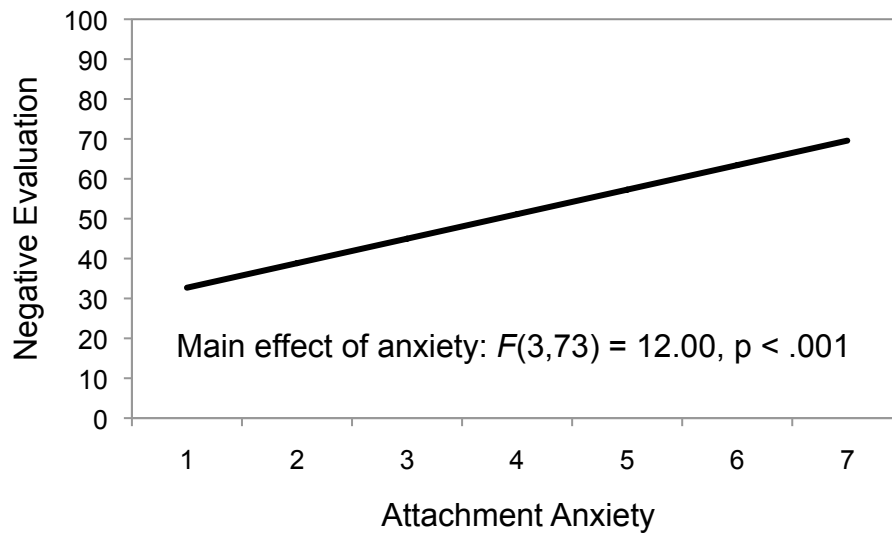
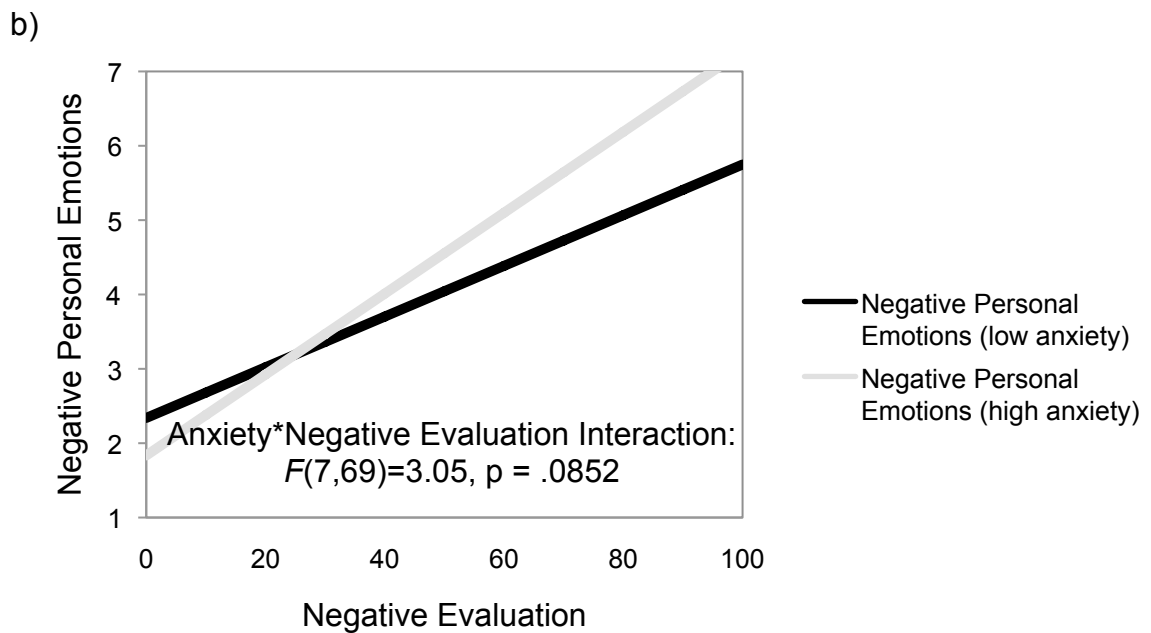
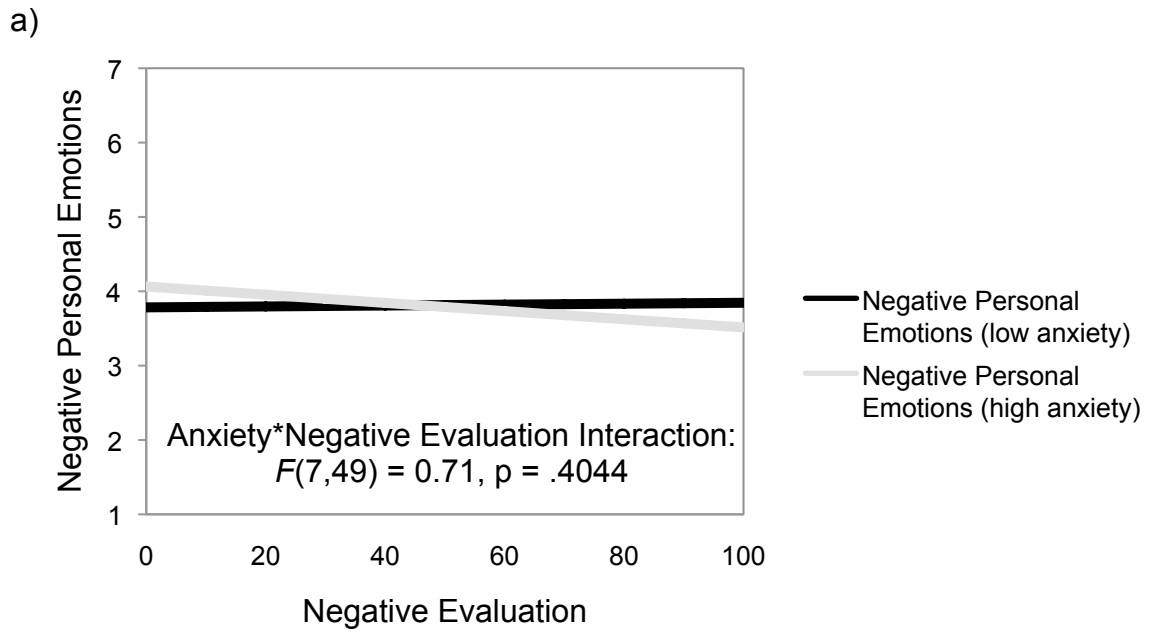
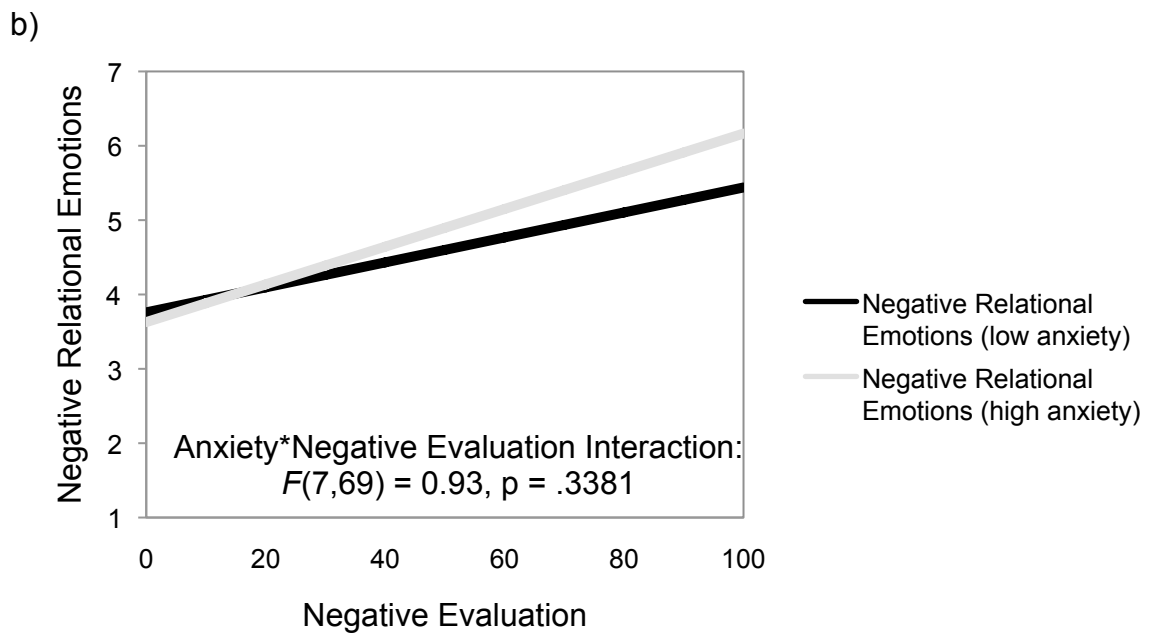
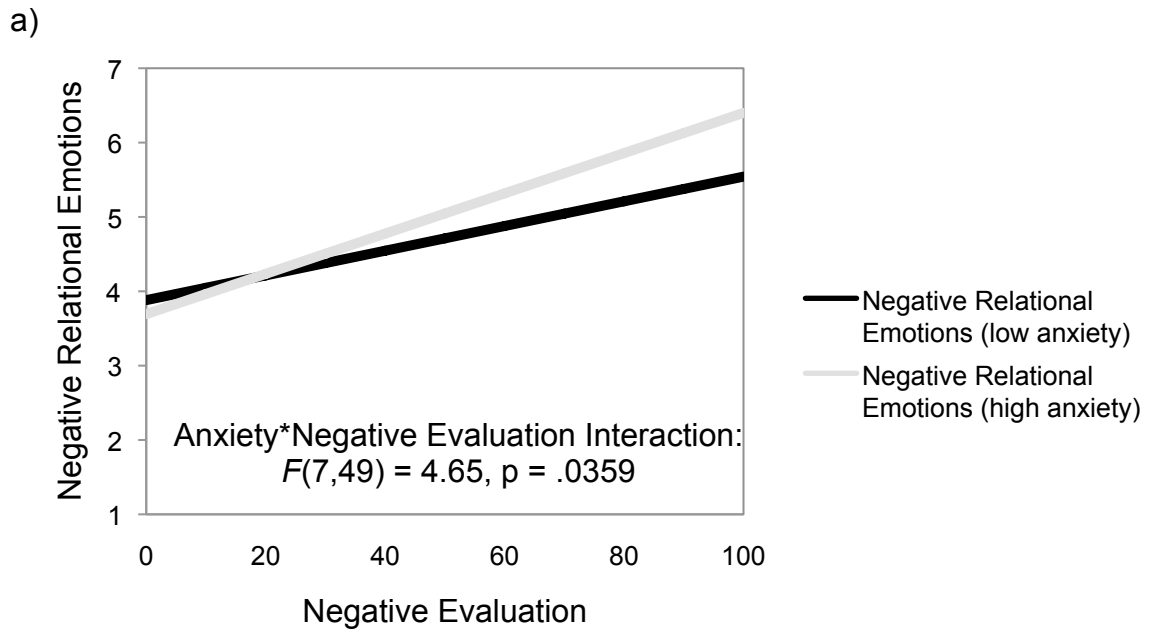


Figure 2. Perceptions of the extent to which individuals anticipated feeling negatively evaluated by their support provider as a function of attachment anxiety in (a) Preliminary Study 1 and (b) Preliminary Study 2.

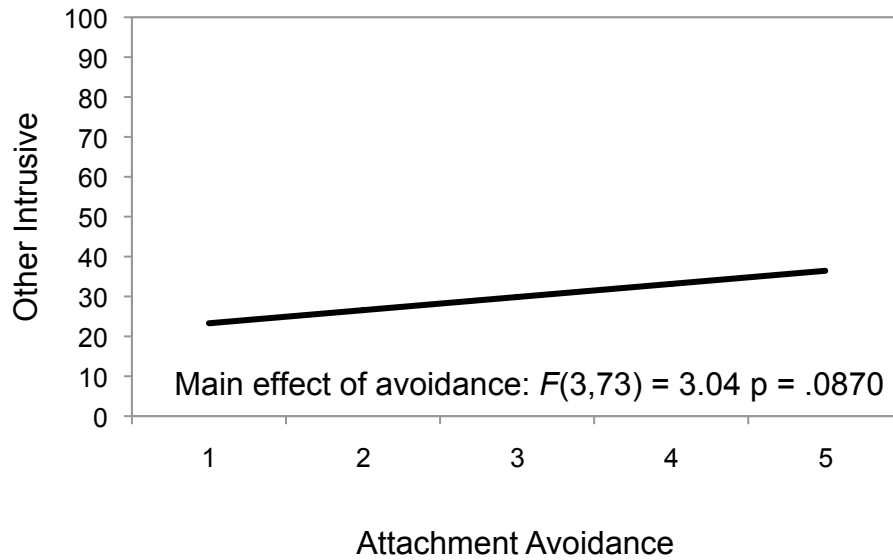


*Figure 3.* Anticipated experiences of negative personal emotions as a function of attachment anxiety and negative evaluations in (a) Preliminary Study 1 and (b) Preliminary Study 2.

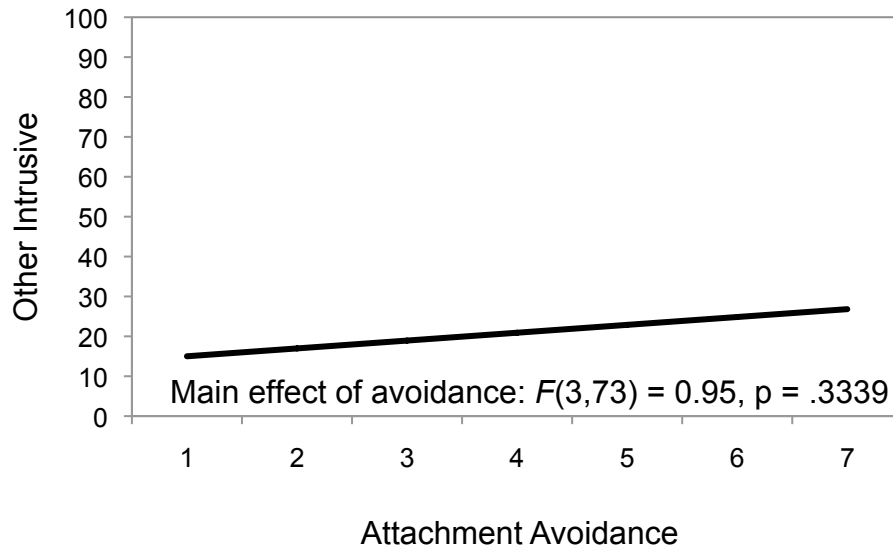


*Figure 4.* Anticipated experiences of negative relational emotions as a function of attachment anxiety and negative evaluations in (a) Preliminary Study 1 and (b) Preliminary Study 2.

a)



b)



*Figure 5.* Perceptions of the extent to which individuals perceived support behaviors as intrusive as a function of attachment avoidance in (a) Preliminary Study 1 and (b) Preliminary Study 2.



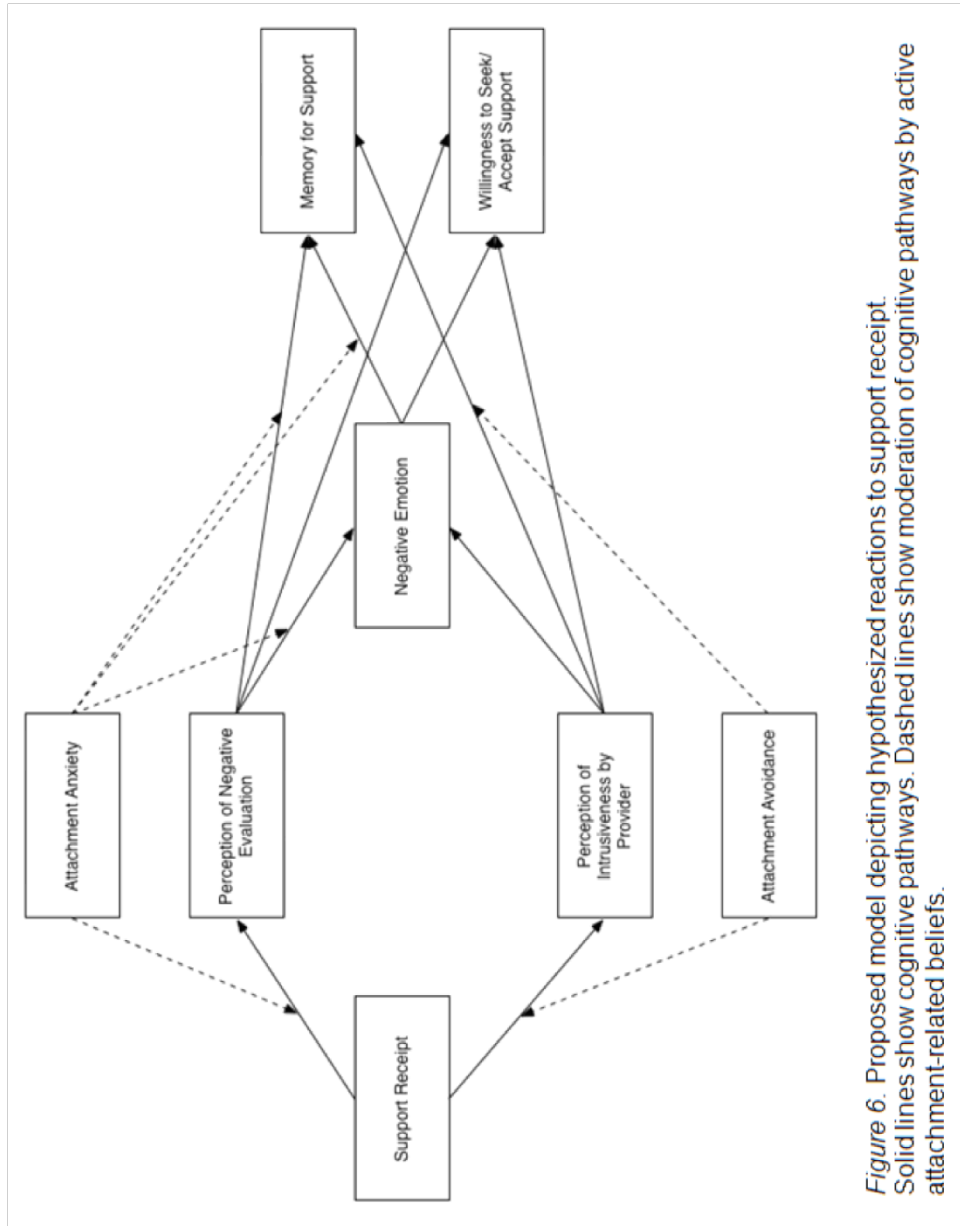
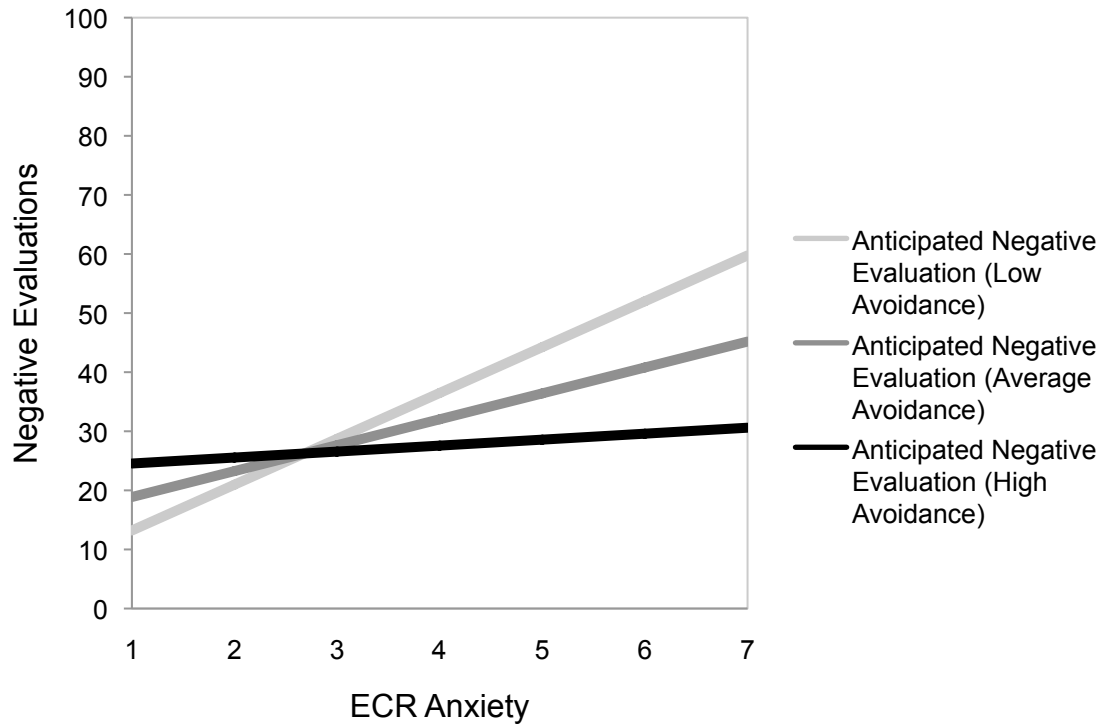
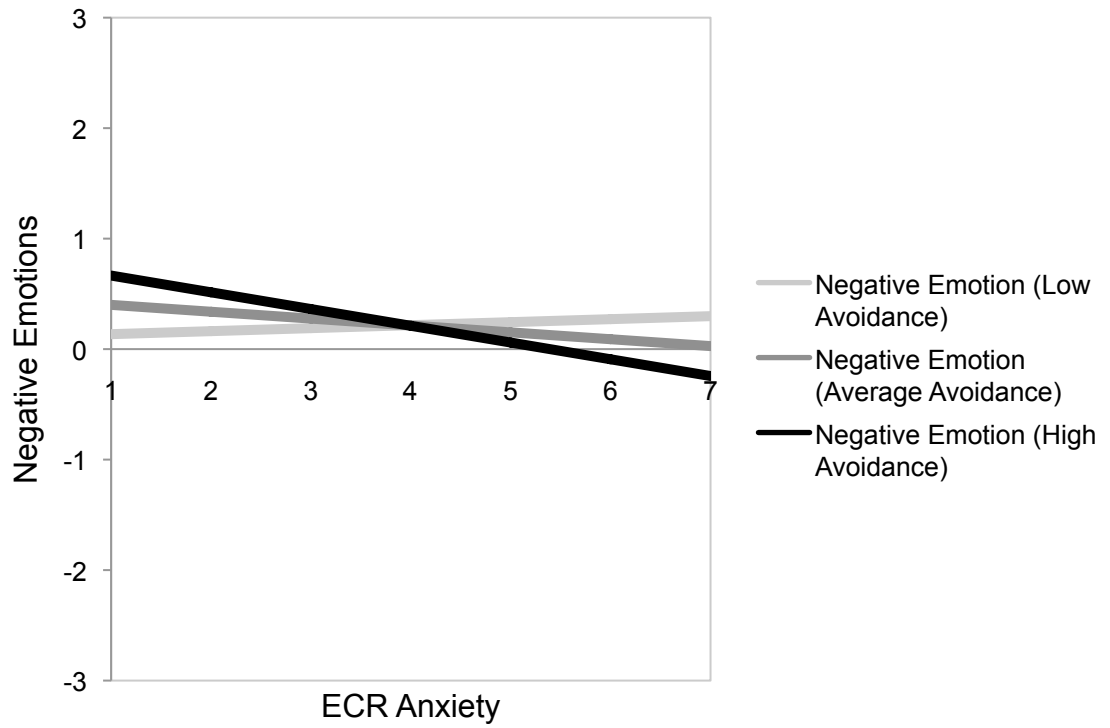


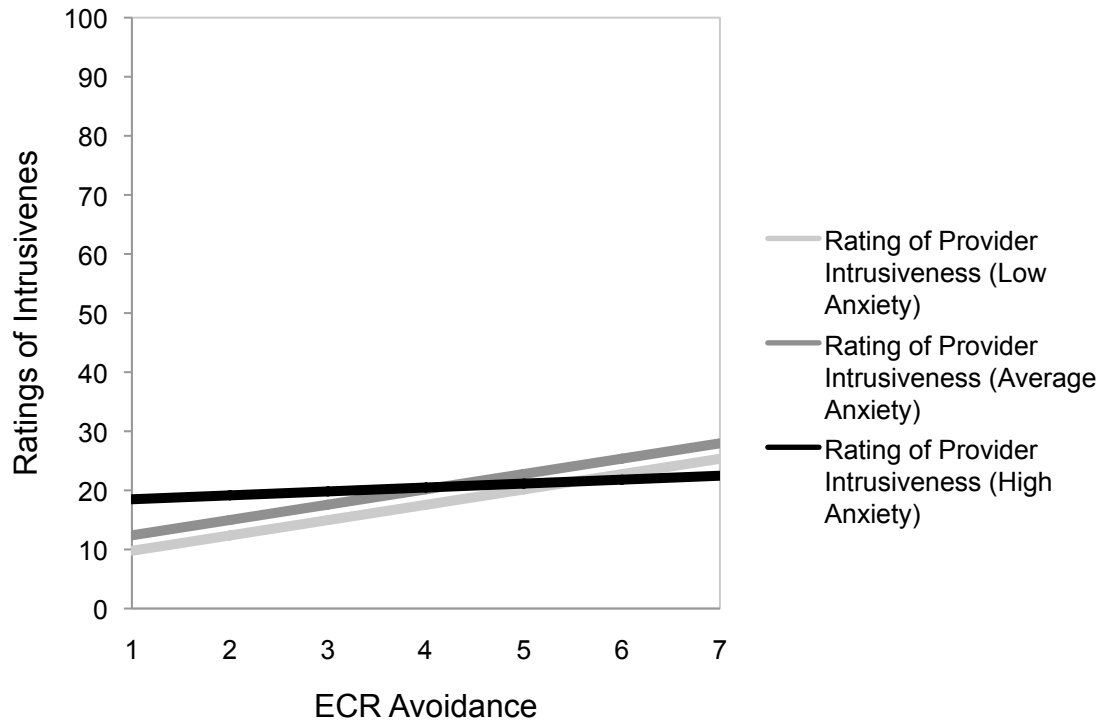
Figure 6. Proposed model depicting hypothesized reactions to support receipt. Solid lines show cognitive pathways. Dashed lines show moderation of cognitive pathways by active attachment-related beliefs.



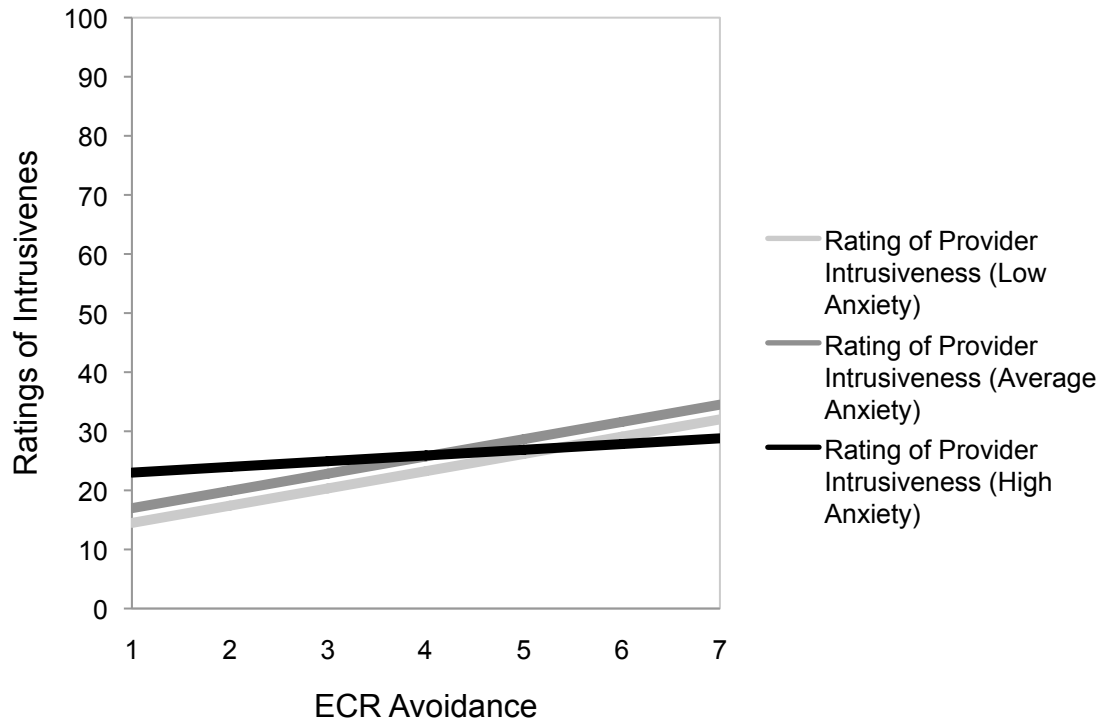
*Figure 7.* Anticipated negative evaluations by one's significant other as a function of attachment-related anxiety and avoidance for those in the no support condition in Part 1 of Study 1.



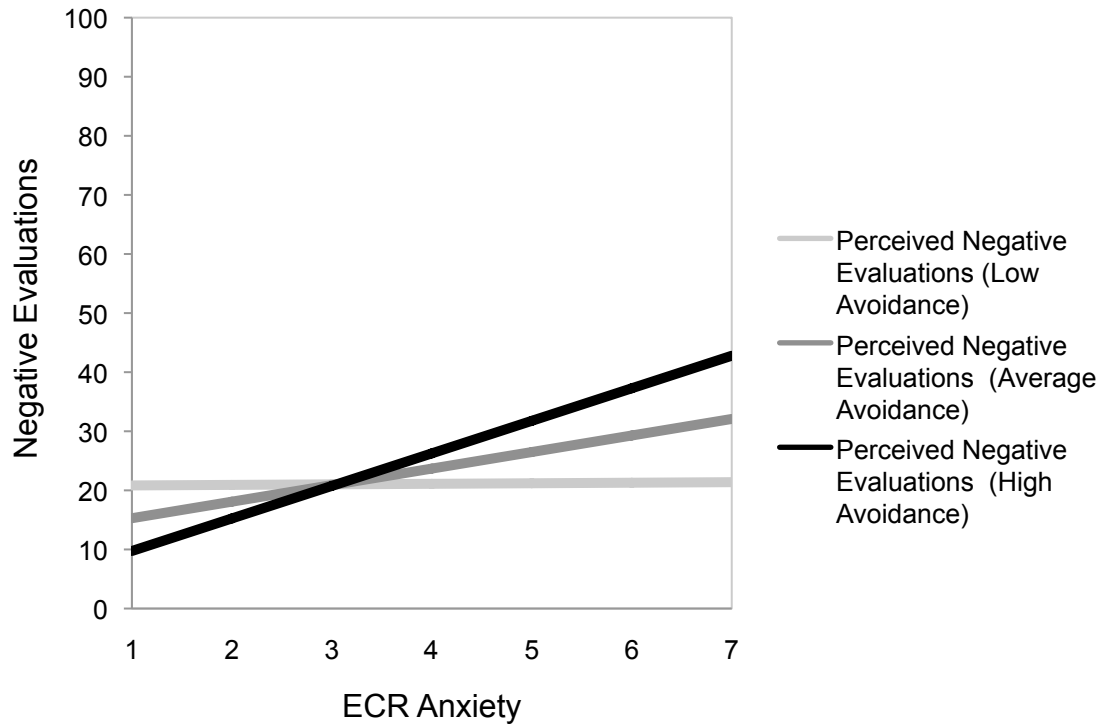
*Figure 8.* Anticipated changes in negative emotions as a function of attachment-related anxiety and avoidance in Part 1 of Study 1.



*Figure 9.* Ratings of intrusiveness as a function of attachment-related anxiety and avoidance in Part 1 of Study 1.



*Figure 10.* Ratings of intrusiveness as a function of attachment-related anxiety and avoidance in Part 3 of Study 1.



*Figure 11.* Perceived negative evaluations as a function of attachment-related anxiety and avoidance for those in the support condition of Part 1 of Study 2.

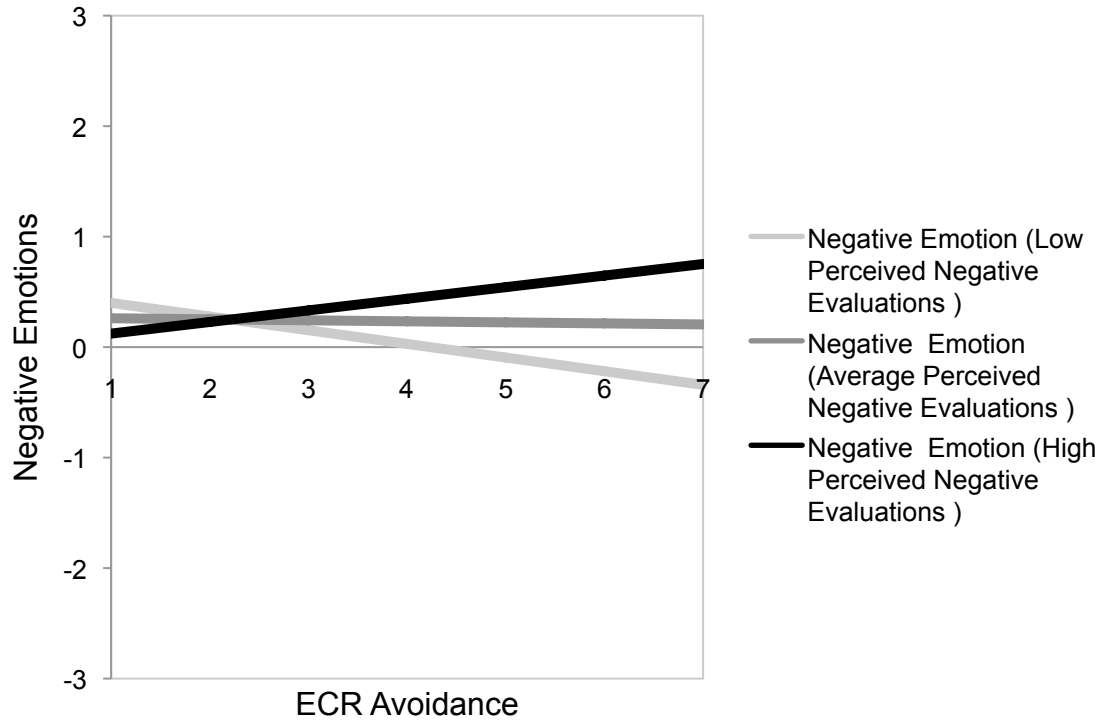


Figure 12. Negative post-task emotions as a function of perceived negative evaluations and attachment-related avoidance in Part 1 of Study 2.

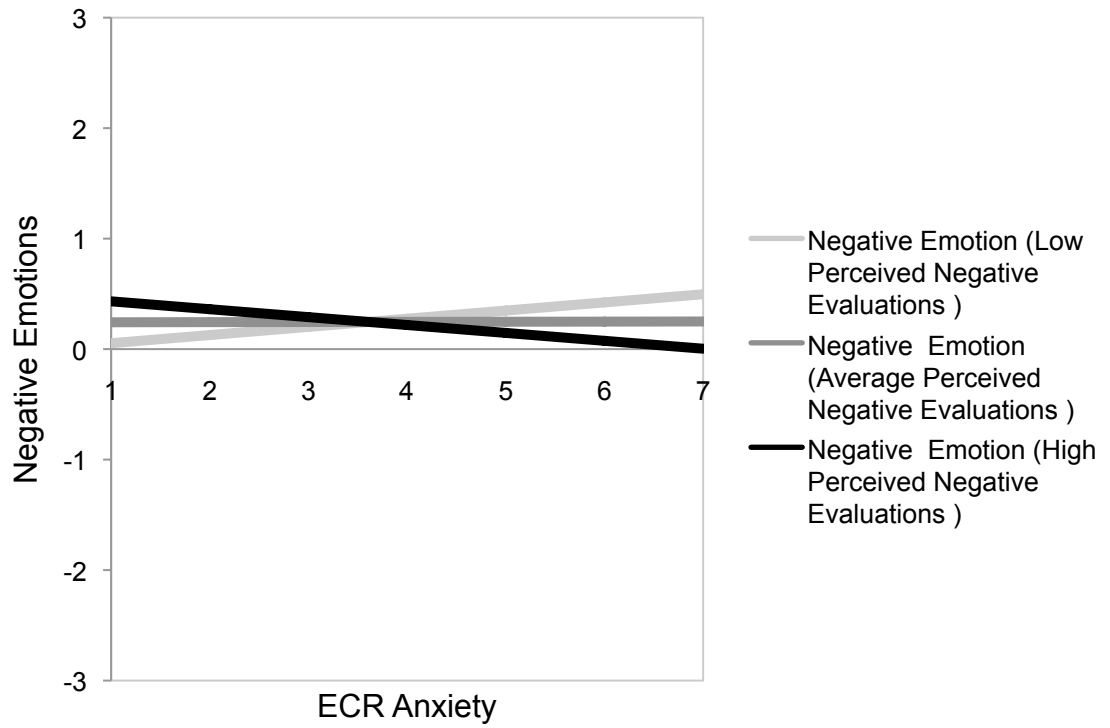
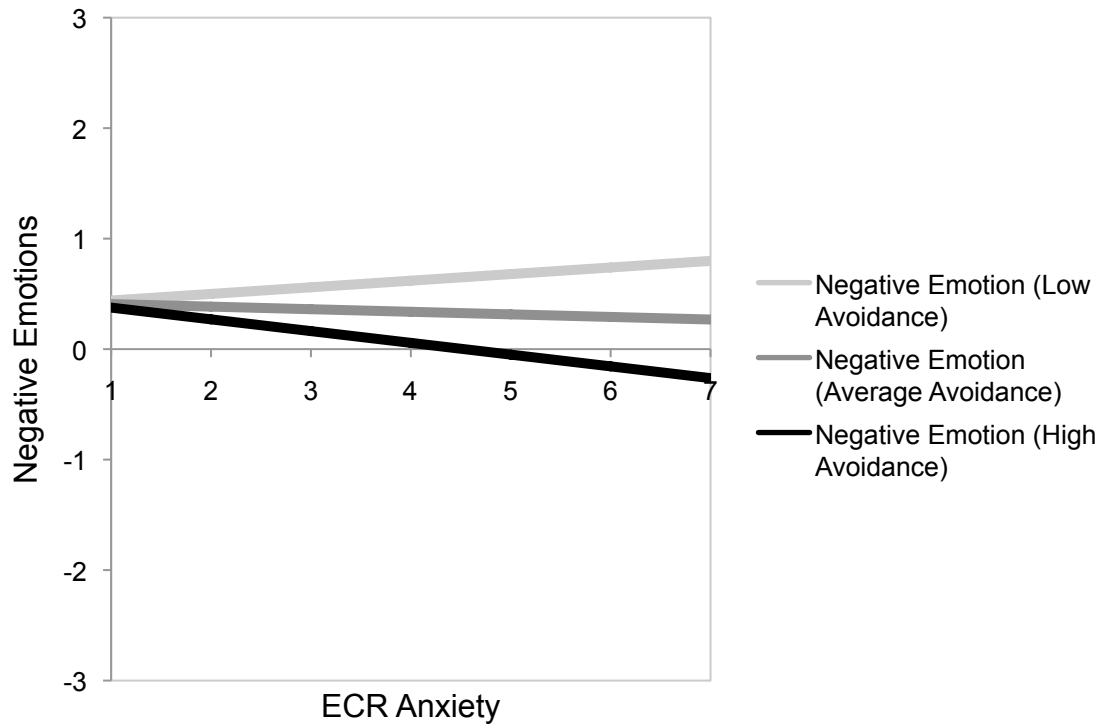


Figure 13. Negative post-task emotions as a function of perceived negative evaluations and attachment-related anxiety in Part 1 of Study 2.





*Figure 14.* Negative post-task emotions as a function of attachment-related anxiety and avoidance for those in the support condition of Part 1 of Study 2.

## Curriculum Vitæ

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### EDUCATION

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- Ph.D. in Social Psychology**, Lehigh University, Bethlehem, PA **2015**  
Dissertation title: Attachment and Feelings of Evaluation during Supportive Interactions  
Advisor: Christopher T. Burke, Ph.D.
- M.S. in Social Psychology**, Lehigh University, Bethlehem, PA **2012**  
Thesis title: Supportive Interactions between Close Others: The Influence of Context on the Outcomes of Support Receipt  
Advisor: Christopher T. Burke, Ph.D.
- Postgraduate Degree (Honors Equivalent) in Psychology**, University of Melbourne, Melbourne, Australia **2007**  
Advisor: Lisa Phillips, Ph.D.
- B. S. in Human Development**, Cornell University, Ithaca, NY **2006**  
Concentration: Social and Personality Development

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### PUBLICATIONS

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- Burke, C.T., & Goren, J. (2014). Self-evaluative consequences of social support receipt: The role of context self-relevance. *Personal Relationships*, 21(3), 433-450.
- Goren, J., Phillips, L., Chapman, M., & Salo, R. (2012). Dissociative and psychotic experiences of adolescents admitted to a psychiatric inpatient unit. *Journal of Trauma & Dissociation*, 13(5), 554-567.

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### MANUSCRIPTS IN PROGRESS

---

- Burke, C.T., Ignarri, C., & Goren, J. (under revision). *The Experiences in Supportive Interactions Model: An Integrative, Social-Cognitive Theory of Social Support Receipt*.

---

### CONFERENCE PRESENTATIONS

---

- Goren, J., & Burke, C.T. (2014, February). Attachment Style and Experiences in Supportive Interactions. Poster presented at the 15th annual meeting of the Society for Personality and Social Psychology, San Diego, CA.
- Burke, C.T., Perndorfer, C., & Goren, J. (2013, January). *Social support receipt, loving acts, and risk for postpartum depression*. Paper presented at the 14th annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.
- Goren, J., & Burke, C.T. (2013, January). Supportive Interactions Between Close Others: Physiological and Self-Reported Reaction to Support Receipt Vary by Context. Poster presented at the 14th annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.
- Goren, J., & Burke, C.T. (2012, January). The Contextual Dependence of Social Support: Self-Relevant Concerns Shape the Experience of Enacted Support. Poster presented at the 13th annual meeting of the Society for Personality and Social Psychology, San Diego, CA.

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**DEPARTMENTAL PRESENTATIONS**

---

- Goren, J.** (2014, April). *Attachment and Feelings of Evaluation in Supportive Interactions*. Paper presented at Lehigh Psychology Department Brownbag Series, Lehigh University, PA.
- Goren, J.** (2012, April). *Supportive Interactions between Close Others: The Influence of Context on the Outcomes of Support Receipt*. Paper presented at Lehigh Psychology Department Brownbag Series, Lehigh University, PA.
- Goren, J.** (2011, April). *Enacted Support: What determines when will it be helpful or harmful?* Paper presented at Lehigh Psychology Department Brownbag Series, Lehigh University, PA.

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**RESEARCH EXPERIENCE**

---

- Developmental Psychology Research Assistant** **2009 – 2010**  
**Lehigh University, Bethlehem, PA**  
Advisors: Tia Panfile, Ph.D., Debbie Laible, Ph.D.
- Honors Thesis, Student** **2007**  
**University of Melbourne, Melbourne, Australia**  
Advisor: Lisa Phillips, Ph.D.
- Social Cognition Lab Research Assistant** **2005 – 2006**  
**Cornell University, Ithaca, NY**  
Advisor: Qi Wang, Ph.D.

---

**TEACHING EXPERIENCE**

---

- Teaching Assistant for Social Psychology**, Lehigh University **Spring 2014**  
Professor: Dominic Packer, Ph.D.
- Co-Instructor for Social Psychology Lab**, Lehigh University **Spring 2014**  
Professor: Dominic Packer, Ph.D.
- Teaching Assistant for Experimental Research Methods**, Lehigh University **Fall 2013**  
Professor: Pat O'Seaghdha, Ph.D.
- Instructor for Social Psychology**, Lehigh University **Summer 2013**
- Teaching Assistant for Social Psychology**, Lehigh University **Spring 2013**  
Professor: Dominic Packer, Ph.D.
- Teaching Assistant for Child Development**, Lehigh University **Fall 2012**  
Professor: Deborah Laible, Ph.D.
- Co-Instructor for Child Development Lab**, Lehigh University **Fall 2012**  
Professor: Deborah Laible, Ph.D.
- Teaching Assistant for Introduction to Psychology**, Lehigh University **Spring 2011**  
Professor: Dominic Packer, Ph.D.
- Teaching Assistant for Health Psychology**, Lehigh University **Fall 2010**  
Professor: Timothy Lomauro, Ph.D.

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**UNIVERSITY SERVICE**

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<b>Graduate Assistant for Technology (Psychology Department)</b> Lehigh University, Bethlehem, PA	<b>Fall 2011- Spring 2012</b>
Dean's Graduate Student Advisory Council	<b>2011- 2014</b>
Graduate Student Senate Representative	<b>2011- 2012</b>

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**PROFESSIONAL MEMBERSHIPS AND SERVICE**

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Reviewing:  
Ad Hoc Reviewer: Journal of Applied Social Psychology

Memberships:  
Psi Chi  
Society for Personality and Social Psychology  
New York Academy of Sciences

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**HONORS AND ACCOMPLISHMENTS**

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Dale S. Strohl Dissertation Support Fellowship	<b>2014-15</b>
College of Arts and Sciences Summer Fellowship	<b>Summer 2012</b>
Level 2 Certificate for Lehigh University Teacher Development Program	<b>Fall 2011</b>