

PREDICTING PERSONAL AND RELATIONAL RECOVERY FROM  
INFIDELITY IN COMMITTED RELATIONSHIP:  
A MODERATED MEDIATION MODEL

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PREDICTING PERSONAL AND RELATIONAL RECOVERY FROM  
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A MODERATED MEDIATION MODEL

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ABSTRACT

Infidelity can be damaging to committed relationships and is the most frequently cited cause of divorce (Austin Institute, 2014). Evidence suggests that couples can survive the trauma of infidelity, and that recovery is possible (Heintzelman, Murdock, Krycak, & Seay, 2014; Olson, Russell, Higgins-Kessler, & Miller, 2002); however, the recovery process following the disclosure of infidelity remains an under-studied area in the infidelity literature. The present study, informed by attachment theory, infidelity literature, and forgiveness research, used a moderated mediation model analyzing the contribution of attachment style, socio-cognitive correlates (i.e. rumination, attribution, and empathy), and perceived partner empathy to personal and relational recovery from infidelity among a sample of individuals who chose to remain in the relationship in which the infidelity occurred. Path analytic findings revealed that (a) the attachment anxiety – forgiveness link was partially mediated by rumination, but not attribution, whereas the attachment avoidance – forgiveness link was

partially mediated by low empathy; (b) perceived partner empathy did not moderate the relation between attachment and rumination, attribution, and empathy; (c) perceived partner empathy, but not attachment anxiety, predicted lower non-benign attribution, and was directly or indirectly related to all four recovery outcomes; and (d) forgiveness was a significant second-order mediator in relationships between insecure attachment and other distal recovery outcomes including psychological distress, relationship satisfaction, and relational trust. Implications are discussed.

## APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Education, have examined a thesis titled “Predicting Personal and Relational Recovery from Infidelity in Committed Relationship: A Moderated Mediation Model,” presented by G Wei Ng, candidate for the Doctor of Philosophy degree, and hereby certify that in their opinion it is worthy of acceptance.

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## CHAPTER 1

### INTRODUCTION AND LITERATURE REVIEW

Infidelity remains one of the most painful experiences in a relationship. The revelation of a partner's affair often signals the loss of innocence and safety which can never be reclaimed (Glass & Staeheli, 2003). Such betrayal is traumatizing because it shatters one of the most fundamental assumptions of a monogamous relationship: its exclusivity, and is considered almost as damaging as physical abuse (Whisman, Dixon, & Johnson, 1997). Prevalence estimates for extramarital affairs in the United States have ranged from 20% to 40% (Marin, Christensen & Atkins, 2014), and somewhere between 22 and 25% of men and 11 and 15% of women reported having engaged in extramarital sex at least once during the course of marriage (Allen et al., 2005; Mark, Janssen, & Milhausen, 2011). The consequences of such acts are undeniably detrimental to individuals involved as well as to relationships. A partner's unfaithfulness can be especially devastating and heart-wrenching for the injured partner. When facing such betrayal, injured partners are likely to experience negative emotions, including rage, hurt, resentment, depression as well as decreased personal and sexual confidence and damaged self-esteem (Charny & Parnass, 1995). The aftereffects of infidelity on relationships can also be easily identified which include loss of trust, decreased intimacy, disruption to other relationships (e.g., with children, friends, and parents), financial consequences, and legal consequences (Charny & Parnass, 1995). It is no wonder that infidelity is a notoriously difficult problem to treat in couples therapy (Geiss &

O’Leary, 1981), and is the most frequently cited cause of divorce, according to the large-scale Relationships in America survey which included nearly 4,000 ever-divorced adults ages 18 to 60 (Austin Institute, 2014). 37 percent of those divorcees surveyed listed infidelity as the reason for divorce, followed by spouse’s unresponsiveness to their needs (32%), poor match (30%), spouse’s immaturity (30%), and emotional abuse (29%).

Still, not all relationships dissolve following the discovery of infidelity (Blow & Hartnett, 2005). Researchers and clinicians report that a small percentage of couples survive the trauma of infidelity (Buunk, 1987; Charny & Parnass, 1995). What is more, some unintended positive outcomes in the wake of infidelity such as an improved primary relationship (Olson, Russell, Higgins-Kessler, & Miller, 2002) and personal growth (Heintzelman et al., 2014) have been found possible. However, little is known about couples who choose to stay together post-affair. Although studies of infidelity have burgeoned over the years (for a list, see Blow and Harnett, 2005), most of the research on extradyadic involvement has primarily emphasized the prediction of infidelity and identification of specific risk factors (e.g. Allen et al., 2005; Atkins, Baucom, & Jacobson, 2001; Treas & Giesen, 2000). Much to my surprise, the recovery process ensuing the revelation of affair is left largely unaddressed by infidelity researchers. Even less attention has been paid by researchers to couples who remain together post-affair. This is a serious lacuna in light of the fact that therapists have little empirical guidance in treating couples who have experienced infidelity. Thus, understanding the factors and mechanisms that promote recovery and healing from the damage that infidelity inflicts seems particularly pertinent for therapists working with couples who present with infidelity-related grievances. To this end, I sought to examine a sample of individuals who remained in a relationship in which infidelity



had occurred, and to empirically explore factors that contribute to recovery from infidelity through the lens of attachment theory (Bowlby, 1969). Specifically, I proposed a moderated mediation model (see Figure 1) in which rumination and attribution will mediate the relationship between attachment anxiety and recovery outcomes (i.e. forgiveness, psychological distress, relationship satisfaction, and relational trust) whereas empathy for the offending partner will mediate the relationship between attachment avoidance and the aforementioned recovery outcomes. In addition, I hypothesized that the relationships between two attachment dimensions (anxiety and avoidance) and socio-cognitive variables (rumination, attribution, and empathy) will change according to the levels of perceived partner empathy (moderating effect), which in turn will affect injured partner's likelihood to forgive their partner's unfaithful behavior.

The topic of infidelity is one that is of great importance to the practice of couple therapists and even more so to the couples struggling in infidelity's aftermath. As expected, there is an inundation of clinical literature, popular trade books, and case studies addressing treatment for infidelity; implied in these treatment models are pathways through which relationship repairs happen and individuals recover. These intervention models will be reviewed in detail shortly; however, it is important to note that most of these approaches have not been grounded in empirical research. At the present time, only three treatment approaches to my knowledge have been subjected to empirical examination: the forgiveness-based integrative treatment model (Gordon, Baucom, & Snyder, 2004), behavioral couple therapy (Atkins, Eldrige, Baucom, & Christensen, 2005; Marin, Christensen, & Atkins, 2014), and the attachment injury resolution model (Makinen & Johnson, 2006). Evidently, there is a dire need for more research that systematically and empirically studies the healing

Figure 1

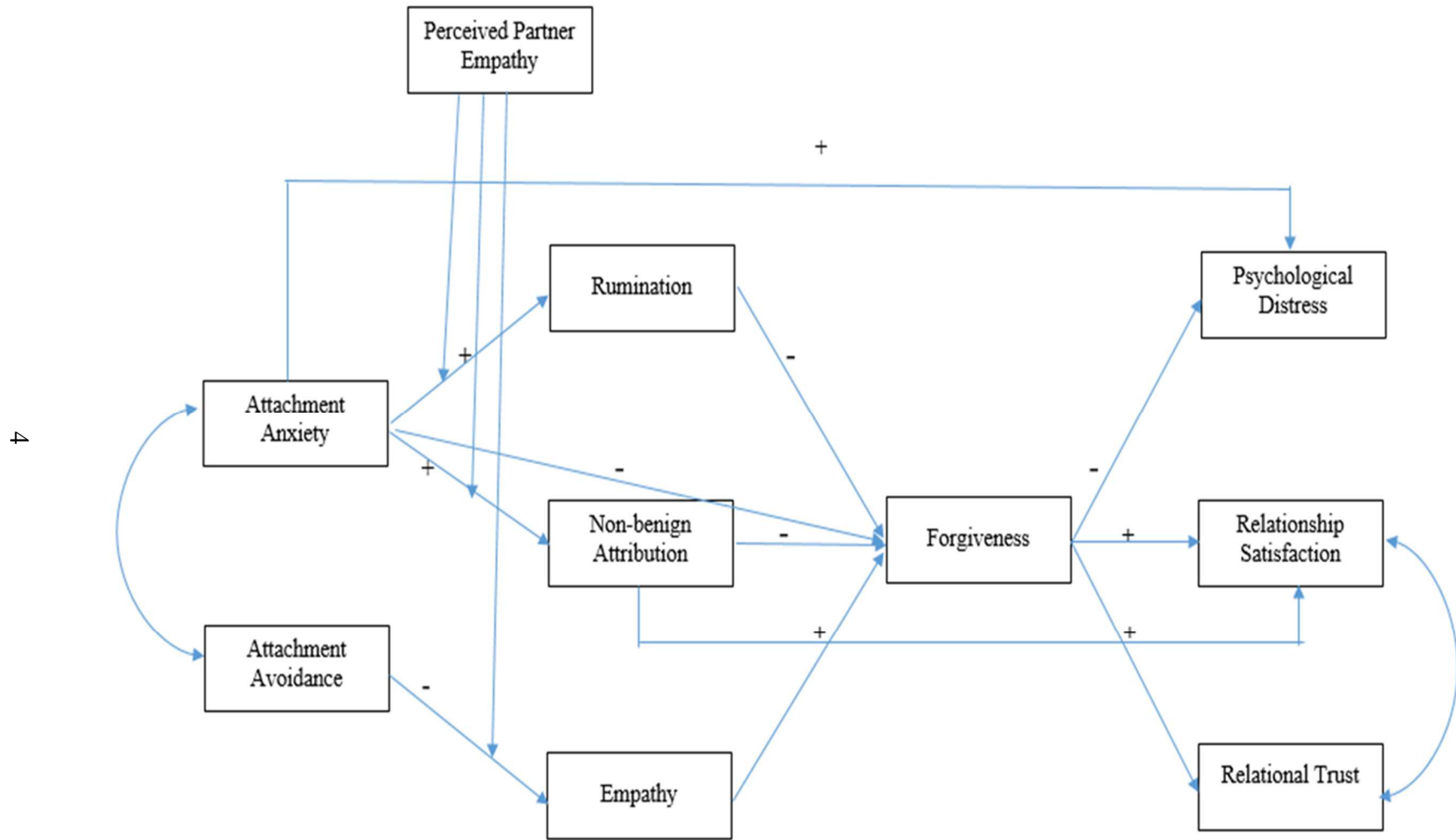


Figure 1. Theoretical Model of Moderated Mediation Predicting Personal and Relational Recovery Outcomes.

process among those couples who survived the infidelity so as to inform treatment. On that account, the aim of this study was to identify factors that may be important in promoting recovery processes of infidelity, thus providing therapists with an empirically tested roadmap to guide their work with couples. The following sections discuss in detail the literature on infidelity, attachment, and forgiveness.

### **Infidelity**

Before turning to the impact of infidelity, it is helpful to first consider the definition of the term. In a substantive review of the extant literature, Blow and Hartnett (2005) highlighted the definitional issues in infidelity research and suggested that future studies should not limit the definition of infidelity to sexual intercourse, for doing so minimizes the devastating effects that other types of extradyadic involvement (e.g., emotional connection or combined sexual and emotional infidelity) can potentially have on relationships. Accordingly, all three types of infidelity (i.e., emotional-only, sexual-only, and combined sexual and emotional) during a committed relationship were included in this study. Specifically, infidelity is broadly defined as a “sexual and/or emotional act engaged in by one person within a committed relationship, where such an act occurs outside of the primary relationship and constitutes a breach of trust and/or violation of agreed-upon norms (overt and covert) by one or both individuals in that relationship in relation to romantic/ emotional or sexual exclusivity” (Blow & Hartnett, 2005, pp. 191-192).

Blow and Hartnett’s (2005) review also underscored the complexity in delineating different types of infidelity. Even though the present study adopts three general categories of infidelity (i.e. emotional-only, sexual-only, and combined sexual and emotional), within each category there exists many different types. For example, sexual infidelity can range from

engaging in sexual intercourse with someone other than one's partner to other sexual interactions with someone else, such as kissing, flirting, petting, sexting, and cybersex, to name a few. The definition of emotional infidelity is even fuzzier, although it has been previously conceptualized as "falling in love and forming a deep emotional attachment" to another person (Sabini & Green, 2004). Nevertheless, not everyone is in agreement with these definitions of sexual and emotional infidelity. Roscoe, Cavanaugh, and Kennedy (1988), for instance, found that participants believed that in addition to sexual intercourse, behaviors such as dating or spending time with a person other than one's partner and engaging in other sexual behaviors (e.g. kissing) are also acts of infidelity. Another study has found that participants viewed passionately kissing, sexual fantasies, sexual attraction, falling in love, romantic attraction, flirting and behaviors in dyads (e.g. having lunch with or going to a movie with someone other than one's partner) as unfaithful behaviors (Yarab, Sensibaugh, & Allgerier, 1998). Clearly, the subjective nature of infidelity makes it hard to provide one definitive definition for each type of infidelity. It is no wonder that most studies I reviewed only examined sexual infidelity and limited its definition to sexual intercourse with someone other than one's partner. In the small amount of research that included both sexual and emotional infidelity, the limited data suggest that sexual infidelity elicited greater anger and disgust, and less hurt, than emotional infidelity, for both women and men (Becker, Sagarin, Guadagno, Millevoi, & Nicastle, 2004). Whereas the emotional response to the combined type of infidelity has never been explored empirically, it is reasonable to conjecture that infidelity that combines both sexual and emotional aspects would elicit the same, if not greater, amount of anger, disgust, jealousy, and hurt in the injured partner.

Converging bodies of research and clinical accounts have led to a consensus that extradyadic affairs have severe individual and dyadic consequences. Rage toward the offending partner, feelings of shame, depression, abandonment, and victimization are amongst the common intense emotions reported by injured partners (Baucom, Gordon, Snyder, Atkins, & Christensen, 2006; Beach et al., 1985; Gordon et al., 2004; Olson et al., 2002). Further, a study of more than 2,000 randomly selected married people in the United States by Amato and Rogers (1997) showed that the impact of extramarital sex on divorce was more than twice as large as any other relationship problems (e.g. being domineering, spending money foolishly, abusing drugs or alcohol). In response to the damaging impact of affairs on relationships, clinicians have developed guidelines for treating couples for whom infidelity is an issue. Nevertheless, as previously mentioned, most of these approaches – with the exception of three – are based on therapists’ insights drawing from their clinical experiences and lack empirical support. For this reason, I chose to review, in detail, only the intervention models that have some form of empirical evidence regarding their efficacy.

The first treatment model designed specifically for infidelity that has been subjected to empirical scrutiny was Gordon and Baucom’s (1998; 2004) three-stage integrative forgiveness model. The authors conceptualize recovery from an extradyadic affair as analogous to recovery from an interpersonal trauma. The first stage of the model concerns addressing the impact of the affair which involves absorbing and experiencing the impact of the interpersonal trauma. The second stage involves a search for meaning for the affair, along with gaining awareness of the implications for this new understanding. The last stage of the model involves moving forward with one’s life within the context of a new set of relationship beliefs. It is during this last stage where the discussion of forgiveness occurs.

According to this model, forgiveness does not require reconciliation; however, to preserve the relationship and help it be rewarding, achieving forgiveness seems like a necessary process that the couples have to go through (Baucom et al., 2006). To test the efficacy of their integrative model, Gordon et al. (2004) used a replicated case study design with 13 couples who presented with infidelity concerns, 9 of whom completed therapy. Results indicated that at the end of treatment and also at 6-month follow-up, injured partners reported decreased relational distress, PTSD and depression symptoms, and increased forgiveness; conversely, for the offending partner, marital discord remained unchanged post-treatment. A closer examination of the data revealed that the offending partners were not as distressed about the relationship as the injured partners were at the beginning of treatment, perhaps accounting for their lack of change on relational satisfaction over the course of treatment (Gordon et al., 2004). Despite limited by its small, homogenous sample, this study showed a promising approach to help couples recover from infidelity and ideally should be replicated with larger, more diverse samples.

Another evidence-based approach in treating couples presenting with infidelity is behavioral couple therapy. Developed using behavioral and social-learning theory, traditional behavioral couple therapy (TBCT) involves teaching couples communication and problem-solving skills with which to discuss the affair and handle issues related to it, whereas integrative behavioral couple therapy (IBCT) emphasizes emotional acceptance and the focus of therapy is on the emotional impact of the affair and on understanding its origin and meaning (Atkins et al., 2005; Marin et al., 2014). The therapy outcomes for both versions of behavioral couple therapy have been encouraging, showing that couples struggling with infidelity ( $N = 19$ ) reported greater improvement in relationship satisfaction

than non-infidelity couples post-therapy, despite being notably and reliably more distressed than their non-infidelity peers at pre-treatment (Atkins et al., 2005), and more than half (57%) the couples were able to sustain the gains made during treatment by the 5-year follow-up (Marin et al., 2014). Note that these findings do not apply to couples with undisclosed affairs.

Lastly, the attachment injury resolution model emanated from the practice of emotionally focused therapy (EFT; Johnson, 2005). It conceptualizes infidelity as an attachment injury, defined as “a perceived abandonment, betrayal, or breach of trust in a critical moment of need for support expected of attachment figures” (p. 1055; Makinen & Johnson, 2006). The model involves eight steps which can be largely grouped into four key components. The first component relates to attachment injury marker during which the injured partner describes the discovery of an affair in a highly emotional manner whereas the offending partner discounts, denies, or minimizes the incident and his or her partner’s pain. The second component involves differentiation of affect which includes the injured partner staying in touch with the attachment injury and begins to articulate its impact and attachment significance whereas the offending partner begins to hear and understand the significance of the injurious event. The third component is characterized by reengagement, which involves the injured partner tentatively moves toward a more integrated articulation of the injury and allows others to witness his or her vulnerability. The offending partner, on the other hand, becomes more emotionally engaged and acknowledges responsibility for his or her part and expresses empathy, regret, and remorse. The last component of the model is typified by forgiveness and reconciliation. At this stage, the injured partner risks asking for comfort and caring that was unavailable at the time of the affair whereas the offending partner responds in

a caring manner that acts as an antidote to the traumatic experience (Johnson, 2005). An outcome study conducted by Makinen and Johnson (2006) provided preliminary evidence in support of the efficacy of this treatment approach. Of the 24 couples who participated in treatment, 15 were identified as having successfully resolved the injury. These resolved couples were found to be significantly more affiliative and achieved deeper levels of experiencing as compared to non-resolved counterparts. Additionally, resolved couples also showed greater improvements in dyadic satisfaction and reported higher levels of forgiveness than non-resolved couples.

Though limited, extant empirical data speak unequivocally to the fact that infidelity is not necessarily the death knell of a relationship and that despite the devastating effects it can have at the personal and relational level, some couples who remained together post-affair can continue to improve and remain indistinguishable from their non-infidelity counterparts in terms of relationship satisfaction (Atkins et al., 2005; Marin et al., 2014). Thus, recovery from infidelity is not an impossible feat. The conceptualization of recovery in the present study will be discussed in detail in the following section.

### **Defining Recovery from Infidelity**

As discussed above, the literature demonstrates very little previous study of couples who survive and recover from infidelity. Although scarce in quantity, extant research on this phenomenon suggests that healing is possible for couples who have experienced infidelity, albeit they vary in their conceptualization of “recovery”. Two quantitative descriptive studies (i.e., Charny & Parnass, 1995; Hansen, 1987) conceptualized recovery as improvement in the quality of the primary relationship after the occurrence of infidelity, whereas two other qualitative studies (i.e., Abrahamson, Hussain, Khan, & Schofield, 2012;



Olson et al., 2002) reported positive outcomes other than improved relationship quality such as forgiveness and understanding the meaning of the affair. A recent study by Heintzelman and colleagues (2014) defined recovery from infidelity as forgiveness and posttraumatic growth and found evidence that both processes are possible after infidelity takes place.

Clearly, there is a lack of consensus on the definitions of positive outcomes, although it seems as if recovery has been conceptualized by researchers along two separate dimensions: personal (e.g., forgiveness, posttraumatic growth, etc.) or relational (e.g., relationship satisfaction, marital stability). Additionally, the few quantitative studies that have assessed recovery at both personal and relational levels were subjected to mono-operation bias which can be problematic due to underrepresentation of the construct. To address this limitation in the literature, the present study assessed recovery both at the *personal* and the *relational* level using multiple measures for each; thereby filling an important gap in the literature on infidelity. Specifically, for the purposes of this study, *forgiveness* and low *psychological distress* are presumed to be indicative of personal recovery. On the other hand, relational recovery is operationalized as *relationship satisfaction* and *relational trust*. Although relationship satisfaction is often used as an indicator of relational outcome in the infidelity literature, the present study is believed to be the first that assesses relational trust as an indicator of recovery from relational crisis such as infidelity. Further, in order to better study variables related to recovery, the inclusion criteria of the present study were limited to individuals who are still involved in the relationship where infidelity occurred, and that the discovery or disclosure of the affair occurred at least six months but less than five years prior to their participation in this study. Note that the terminology used to designate the specific role of partners in this process varies in the

literature. For the purpose of this study, I used “offending partner” and “injured partner” to refer to the individual having engaged in the extradyadic affair and his or her primary partner, respectively.

### **Forgiveness as a Crucial Recovery Outcome Following Infidelity**

There seems to be agreement in prior research that forgiveness is essential to healing processes post-affair (Abrahamson et al., 2012; Gordon, Baucom, & Snyder, 2004; Heintzelman et al., 2014; Olson et al., 2002). It is imperative, however, to emphasize that the current conceptualization of forgiveness does not imply that forgiveness necessarily leads to reconciliation. Indeed, it is entirely possible for an injured partner to have forgiven the offending partner, yet decide to end the relationship. However, for couples who decide to remain in and recommit to their relationship, forgiveness is believed to be the cornerstone in restoring the relationship following threats to intimacy (i.e., infidelity; Gordon et al., 2004; Kachadourian, Fincham, & Davila, 2004; Olson et al., 2002). For example, Olson and colleagues (2002) studied the emotional processes of individuals who had experienced marital infidelity using phenomenological and grounded theory approach. They interviewed 13 individuals, 11 of whom remained in the relationship after the disclosure of an affair. They found that all participants described how important achieving forgiveness was in their healing process. The same theme also emerged from the qualitative data from Abrahamson and colleagues’ (2012) study of couples who stayed together at least two years after an affair. Moreover, there is an abundance of clinical literature on treatment for infidelity – all of which addressed the importance of achieving forgiveness in the process of rebuilding the marriage (Levine, 1998; Spring, 1996). Nevertheless, the majority of these treatment models (with the exception of the three models reviewed above) have not undergone empirical

scrutiny. In the following sections, forgiveness will be discussed in light of its role in the recovery process after disclosure of infidelity in committed relationships along with other theoretically-related variables.

### **Forgiveness**

In forgiveness research, interpersonal forgiveness in the context of intimate, committed relationships is gaining increased attention (Fincham, Paleari, & Regalia, 2002; Kachadourian et al., 2004; Lawler-Row, Younger, Piferi, & Jones, 2006; McCullough et al., 1998). Couples that have recovered from the impact of various relational transgressions such as mistakes, betrayals, or failures to meet expectations often alluded to the indispensable role of forgiveness in the successful resolution of relationship ruptures and the maintenance of serious, long-term relationships (Fincham et al., 2002; Makinen & Johnson, 2006; Paleari, Regalia, & Fincham, 2005). Research has consistently shown that forgiveness makes it possible for relationships to continue after transgression has taken place. Forgiveness may also ameliorate existing relationship problems (Worthington & DiBlasio, 1990). Further, Fenell (1993) found that couples believe that the willingness to forgive and be forgiven is one of the most important characteristics of marital satisfaction and longevity. Consistent with this finding is the documented positive association between forgiveness and marital quality (as measured by marital satisfaction) over time (Paleari et al., 2005). However, the specific factors and mechanisms leading to forgiveness remain poorly understood. Moreover, most of the interpersonal forgiveness research has focused on interpersonal transgressions, in the most general sense, within the context of committed close relationships; few have focused on the particular transgression of infidelity which can severely undermine the stability of these relationships.

One study (Heintzelman et al., 2014) that specifically looked at variables that facilitate forgiveness in response to infidelity found that differentiation (a concept of Bowen family system theory) – but not levels of trauma experienced – was predictive of forgiveness in a sample of 587 individuals who were still involved in the relationship in which their partner cheated on them by having sex with another person. The failure to detect a significant association between trauma and forgiveness may be related to how trauma was conceptualized in this study. That is, “trauma” related to an affair was operationalized as intrusion and avoidance responses secondary to trauma (as measured by the Impact of Event Scale by Horowitz, Wilner, & Alvarez, 1979); hence it may not be comparable with the distress caused by stressful life events as assessed in other studies. The relatively low levels of trauma reported by participants in this study seemed to support this conjecture. Other research has demonstrated that forgiveness is related to frequency of offense and presence of apology by the offending partner (Gunderson & Ferrari, 2008). Unfortunately, both of these studies only included samples who reported having experienced sexual infidelity in their current relationship, thus precluding generalization of the results to other forms of infidelity. Obviously, knowledge in this area of infidelity is still fairly limited, and more research is needed to identify psychological characteristics that facilitate or inhibit one’s ability to forgive a partner’s infidelity in order to guide interventions aimed to promote recovery from affairs. Attachment theory (e.g. Mikulincer & Shaver, 2005) provides one useful framework for addressing this goal. A review of the attachment theory and of the evidence for a relationship between attachment, forgiveness and other intrapersonal (i.e. psychological distress) and relational outcomes (i.e. relational trust and relationship satisfaction) provides important context.

## **Attachment and Healing from Infidelity: A Brief Overview**

Infidelity has previously been conceptualized as analogous to interpersonal trauma (Gordon & Baucom, 1998) and the disclosure of affair qualifies as an emotionally charged event for most couples (Olson et al., 2002). For these reasons, infidelity and the ensuing road to recovery from this relational crisis can be best seen in the context of adult attachment because attachment is an integrative theory that addresses affect regulation; it is also a systemic theory that examines both the cyclical patterns of responses within dyad as well as each partner's basic intrapsychic needs and fears (Johnson, 2005). Finally, attachment theory has also been called a theory of trauma (Atkinson, 1997) in that it emphasizes the extreme emotional adversity of isolation and separation, especially at times of increased vulnerability following relationship traumas.

### **Attachment Theory**

According to the attachment theory (Bowlby, 1969), human beings are born with an innate propensity to form affectional bonds with, and seek proximity to, attachment figures in an effort to promote safety, especially in response to threat. Although originally developed to explain the bond between infants and their primary caregivers, Bowlby (1994) asserted that attachment is an important component of human experience “from the cradle to the grave” (p. 129) and viewed attachment relationships as playing a powerful role in adults' emotional lives.

However, it was not until 1980s that Hazan and Shaver (1987) first extended the infant-parent attachment framework to adult romantic relationships. Their proposition that romantic love, or pair bonding, is an attachment process has several critical implications. First, the emotional and behavioral dynamics of infant-caregiver relationships and adult

romantic relationships are governed by the same innate motivational system, namely the attachment system, which aims to promote safety and survival. Second, the patterns of individual differences observed in infant-caregiver relationships are similar to the ones observed in romantic relationships. Specifically, they argued that the major infant attachment styles as described by Ainsworth et al. (i.e. secure, anxious-ambivalent, and anxious-avoidant; 1978) are conceptually similar to the love styles observed in the adult pair-bonding context. Third, individual differences observed in adult attachment behavior are reflections of the expectations and beliefs people have formed about themselves and others on the basis of their early attachment histories, and these internal working models (i.e. mental representations of how people view self and others) are believed to be relatively stable. In other words, early caregiving experiences influence, at least in part, how people behave in their adult romantic relationships (Fraley & Shaver, 2000). Lastly, despite being an attachment phenomenon, romantic love also involves additional motivational behavioral systems – caregiving and sex – that are empirically intertwined with attachment but theoretically separable (Fraley & Shaver, 2000).

Extending from the original attachment research, Hazan and Shaver's (1978) three-category model of attachment (i.e. secure, anxious-ambivalent, and avoidant) was originally developed to capture adult analogous of the three attachment types described by Ainsworth and her colleagues. However, this approach is limited because the avoidant pattern described by Hazan and Shaver conflated two theoretically distinct forms of avoidance – fearful avoidance and dismissing avoidance (Bartholomew & Horowitz, 1991). To address this limitation, Bartholomew and Horowitz (1991) proposed a now-familiar four-category model (i.e. secure, anxious-ambivalent or preoccupied, fearful-avoidance, and dismissing-

avoidance) in which they replaced the avoidant category with the two subtypes of avoidance mentioned above. This four-category model could also be placed within a two-dimensional space defined by the valence of people's representational models of the self and others.

According to this model, *secure* attachment is characterized by positive representation of self (e.g. viewing self as worthy and lovable) and of others (e.g. viewing others as responsive and attentive); *preoccupied* attachment (i.e. negative model of self and positive model of others) is closely associated with anxiety about abandonment; *dismissing-avoidant* attachment (i.e. positive model of self and negative model of others) is characterized by an avoidant orientation which serves to maintain a defensive sense of self-reliance and independence; and *fearful-avoidant* attachment (i.e. negative model of self and negative model of others) is marked by avoidant behavior in an effort to prevent being hurt or rejected by partners.

Nevertheless, some researchers questioned the validity of the categorical models of attachment; rather, they argued that a dimensional approach is more appropriate in conceptualizing adult attachment system (Collins, 1996; Fraley & Waller, 1998; Levy & Davis, 1988).

In regard to the "types versus dimensions" debate, some researchers argued in favor of a typological approach with the rationale being that the typology provides organized, functional wholes from which hypotheses about dynamics could be derived; those who argued in favor of dimensions cited psychometric or conceptual reasons (Fraley & Shaver, 2000). For example, Collins (1996) contested the model-of-self-and-others framework, stating that this conceptualization requires that preoccupied individuals have a positive model of others (i.e. viewing others as available, responsive, attentive, etc.) which is at odds with the empirical evidence that suggests highly preoccupied individuals as often being angry,

jealous, combative, and prone to feel that partners are insensitive to their needs. Also in the “dimension” camp, Brennan, Clark, and Shaver (1998) cautioned against the use of categorization, stating that some power and precision are lost when categories rather than continuous scales are used in measuring attachment patterns. On the basis of that argument, they proposed a new approach whereby attachment styles are defined in terms of regions in a two-dimensional space. These two orthogonal (i.e., separate and unrelated) dimensions, as defined by anxiety and avoidance, map onto Bartholomew’s model of self and model of other dimensions, respectively. The attachment anxiety dimension (hereafter AAnx) is thought to derive from negative model of self and is frequently associated with negative perceptions of self-worth and competence, strong need for approval of others, preoccupation, jealousy, as well as fear of abandonment and rejection. Conversely, attachment avoidance (hereafter AAvoid) is believed to stem from the negative model of others that arises from rejecting and/or inexpressive parenting (Bowlby, 1969), and encompasses excessive self-reliance, discomfort with closeness, reluctance to depend on others, and negative perceptions of the trustworthiness and dependability of others. On the basis of this two-dimensional model, individuals who score low on both AAnx and AAvoid are considered securely attached, whereas those who score high on either or both of these dimensions are considered to be insecurely attached.

Besides the “internal working models” interpretation of the two dimensions, Fraley and Shaver (2000) proposed an alternative way of thinking about individual differences in adult attachment – one that is based on the regulatory functions of the attachment system. Within their framework, two fundamental components are implicated in the operation of the attachment system for adults: (a) the “anxiety” component that captures variability in



people's sensitivity and vigilance in detecting threats to attachment security or cues of rejection and abandonment, and (b) the "avoidance" component that captures variability in people's attachment behavior (e.g. approach or avoidance strategies) with respect to their attachment-related needs. These two functionally distinct components of the attachment system are conceptualized as operating in parallel, with the former (AA<sub>Anx</sub>) being related to affect regulation and the latter (AA<sub>Avoid</sub>) being associated with behavioral regulation (i.e. strategies that people use to modulate emotional experiences). However, this is not to say that these two components are mutually exclusive; rather, the activity of each subsystem may feed back into the other, producing coordinated dynamics (Fraley & Shaver, 2000). For example, highly preoccupied individuals (i.e. high in anxiety and oriented toward proximity seeking) reported increased anxiety over time when they attempted to suppress or deactivate abandonment-related thoughts (Fraley & Shaver, 1997).

Although interpretation of the two attachment dimensions remains a point of debate, many researchers agree that attachment styles are more appropriately conceptualized using the dimensional approach rather than the categorical approach; that is, attachment styles are thought to be varying in degree rather than kind (Fraley & Shaver, 2000). Moreover, Brennan and colleagues (1998) claimed that their two-dimensional approach to measuring adult attachment has the advantage of being derived from virtually all extant self-report romantic attachment measures and appears crucial for capturing important individual differences in adult attachment patterns which are analogous to the ones first discovered by Ainsworth and her colleagues (1978). In light of these findings, and in accordance with the field, I adopted the dimensional approach in conceptualizing attachment in the present study.

Ever since its inception, the attachment theoretical perspective on adult intimate relationships has sparked many interesting studies to examine variability in the way people experience and behave within close relationships context (Fraley & Shaver, 2000). Research has consistently shown that a person's attachment significantly influences conflict management and emotional regulation strategies used in times of relationship threat (Burnette, Davis, Green, Worthington Jr., & Bradfield, 2008; Lawler-Row et al., 2006; Wang, King, & Debernardi, 2012). A review of attachment literature revealed that individuals with secure attachment are more likely to utilize effective strategies for organizing and regulating their behavior and emotional experiences (Lawler-Row et al., 2006). They tend to believe close others are available to them and thus behave accordingly. In contrast, individuals with high AAnx are uncertain of the availability of significant others, hence are more likely to use hyper-activating strategies (e.g. seeking reassurance from and clinging to partner) to cope with stressful events. Those who develop high levels of AAvoid, on the other hand, doubt the availability of close others, thus are more likely to employ deactivating strategies such as distancing themselves from sources that may cause increased levels of anxiety and avoiding behaviors that promote intimacy (Mikulincer & Florian, 1998; Wang et al., 2012).

### **Infidelity through the Lens of Attachment Theory**

Infidelity, if placed in an attachment frame, can be seen as a potentially devastating threat to committed love relationships that undermines the stability of the dyadic unit and the attachment bond between partners (Johnson, 2005). Because the occurrence of infidelity presents the risk of losing a significant other and threatens attachment security – both of which are likely to hyper-activate the injured spouse's attachment needs and fears – the adult

attachment perspective has been used by researchers to inform infidelity studies (e.g., Allen & Baucom, 2004; Treger & Sprecher, 2010; Wang et al., 2012). Nevertheless, despite the burgeoning research linking infidelity to attachment, it is rather disappointing that most studies focus on predicting extradyadic involvement from attachment styles (e.g., Allen & Baucom, 2004; Fish, Pavkov, Wetchler, & Bercik, 2012), but only a few look at attachment styles in determining reactions to infidelity (Treger & Sprecher, 2010; Wang et al., 2012), and none look at how attachment might predict forgiveness in the context of infidelity in committed relationships.

In light of previous research, attachment theory provides a useful framework to understand the cognitive, emotional, and behavioral processes post-affair. According to Hazan and Shaver's (1987) theory of adult attachment, when the attachment system is activated ensuing a threat to an attachment bond with a significant other, such is the case with infidelity, individuals with high AAvoid respond with aloofness and withdrawal, and are less likely to engage in relationship-maintaining behaviors; whereas individuals with high AAnx respond with anger, hurt, and excessive rumination. Wang and colleagues' (2012) study that examined the relationships between adult attachment, cognitive appraisal, and behavioral and emotional reactions to romantic infidelity provided support for the theory. Using vignettes describing sexual infidelity as stimuli, participants in this study were instructed to respond to instruments that measure their behavioral and emotional reactions to the hypothetical infidelity scenario. Results based on 173 undergraduate students suggested that both attachment and cognitive appraisals significantly predicted distinct types of reactions to the hypothetical infidelity scenario. Specifically, anxiously attached individuals reacted to the infidelity scenario with more emotional distress and demonstrated hyper-

activation attachment strategies (e.g., ruminating thoughts, seeking revenge, exaggerated emotions, etc.) when facing anticipated separation. Conversely, AAvoid individuals were found to endorse lower amounts of negative emotion and were more likely to engage in deactivation strategies characterized by minimizing the impact of infidelity on personal well-being, distancing, and a lack of willingness to engage in remediating efforts to constructively address relationship issues. Additionally, they also found both direct and indirect effects of cognitive appraisal on the attachment-reaction links (Wang et al., 2012). Nevertheless, this study had several important limitations. First, the use of vignettes can be problematic as it may not engender the same reactions that would occur if the infidelity happened in reality. In fact, Harris (2002), in a study of sexual and romantic jealousy that compared hypothetical to actual infidelity situations, pointed out that “responses to hypothetical infidelity were uncorrelated with reactions to actual infidelity” (p. 7). Moreover, the participants in Wang et al.’s (2012) study were convenience samples of undergraduate psychology students who may or may not have been in relationships (i.e., 31% of the participants were not in a romantic relationship at the time of completing the survey), rendering the conclusions drawn even less relevant to real-life infidelity in committed relationships.

### **Attachment and Forgiveness**

Forgiveness is a response to interpersonal transgression that involves changes in the way the injured partner thinks about (e.g., thoughts of revenge), feels about (e.g., hostility), and behaves (e.g., verbal aggression) towards the offending partner (Gunderson & Ferrari, 2008; Kachadourian et al., 2004; McCullough et al., 1998). It requires tolerating negative affect associated with recognition and experiences of pain, developing a more complex cognitive representation of the offending partner, and effectively regulating one’s emotions

while recalling the specific offense (Lawler-Row et al., 2006). In threatening situations, these processes can be interfered with, suppressed, or overridden by attachment insecurity (Burnette et al., 2007; Collins & Read, 1994; Mikulincer & Shaver, 2005). In contrast, securely attached individuals (i.e., low on both AAvoid and AAnx dimensions) are better able to mobilize adaptive strategies for organizing and regulating these negative emotions; as such, forgiveness as a behavioral response to interpersonal transgression may be one strategy used by securely attached people to effectively weather the emotional storms.

Albeit not within the context of infidelity, previous research shows that attachment style is indeed linked to forgiveness (Burnette et al., 2009; Kachadourian et al., 2004; Lawler-Row et al., 2006). For example, Lawler-Row and colleagues (2006) investigated the role of attachment style in relation to forgiveness following an interpersonal offense in two betrayal interviews. Participants were asked to recall past experiences with conflict and betrayal. Results showed that attachment style uniquely predicted forgiveness such that securely attached individuals were more forgiving in response to two discrete betrayals than insecurely attached young adults, even though the severity of the described events was comparable. Kachadourian and colleagues (2004) found that more positive models of self and other (secure attachment) were related to an increased tendency to forgive partner transgression, albeit slightly differently for husbands and wives. For husbands, models of self and others independently predicted the tendency to forgive, such that those who had a more positive model of self and those who had a more positive model of others (i.e., relationship partner), respectively, were more likely to forgive. For wives, models of self and other interacted to predict forgiveness: for those who had a positive model of self, having a positive model of others was associated with an increased tendency to forgive whereas for

those with a negative model of self, there was no relation between model of others and the tendency to forgive. In other words, among wives, only those who were securely attached (i.e., having positive model of self and others) were likely to forgive partner transgression (Kachadourian et al., 2004). In addition, Burnette, Taylor, Worthington, and Forsyth (2007) found that individuals who were classified as securely attached were more likely to display forgiveness than those with either preoccupied or dismissing attachment styles. Interestingly, they also found that individuals with fearful attachment did not differ significantly from securely attached individuals in displaying willingness to forgive others, and that the attachment-forgiveness link was mediated by rumination. Taken together, these findings demonstrate that attachment representations can be useful for understanding differences in propensity to forgive.

It is imperative, however, to note that these studies adopted the prototypical categorical approach (i.e., secure, preoccupied, fearful, and dismissing) focusing on internal working-models (Griffin & Bartholomew, 1994) in conceptualizing attachment styles. In the context of relational betrayal such as infidelity, a person's "model of self" as well as "model of other" are believed to have implications for forgiving. To elaborate, the model of other (i.e., offending partner) as a dependable attachment figure who prioritizes the bond between the partners is seriously compromised by events such as affairs. Likewise, the model of self is also threatened by these events, such that the injured partner may suffer from damaged self-esteem and decreased confidence (Johnson, 2005). These internal working models are important in the attachment system because they not only guide appraisals of experience, but also drive interpersonal behavior (Bowlby, 1969), hence making one more or less likely to forgive severe partner transgressions such as infidelity.

As discussed in detail above, another parallel yet increasingly common approach to conceptualizing adult attachment is through the AAvoid and AAnx dimensions (Brennan, Clark, & Shaver, 1998) which guide one's behavioral and affective regulation, respectively, in times of relationship threat. To recap, theoretically, AAvoid should influence the strategies one uses to regulate attachment needs, whereas AAnx should predict one's affective processes following relationship threat (Fraley & Shaver, 2000). Consequently, the behavioral and emotional manifestation of these two attachment dimensions are expected to vary in the aftermath of a disclosure of affair. Infidelity poses a serious threat to attachment security which activates injured partner's fear of loss and isolation and amplifies his or her needs for contact comfort. Once activated, the attachment system serves as a guide with which one approaches relationships. Available research is consistent with this view in that a person's attachment style has found to be a powerful predictor of emotion-regulation and reactions to relationship breakup (Mikulciner & Shaver, 2005) and reactions to romantic infidelity (Wang et al., 2012). Given that forgiveness involves a motivational transformation that inhibits relationship-destructive responses and instead promotes constructive behaviors (McCullough et al., 1998), the results of these studies suggest that AAnx and AAvoid may hinder the transformation process required to reach forgiveness when recovering from infidelity.

### **Other Correlates of Forgiveness:**

#### **The Sociocognitive Model of Interpersonal Forgiveness**

The exponential growth of research on forgiveness in the recent years reflects, in part, its presumed beneficial effects on relationship well-being, an idea validated by empirical evidence that suggests that forgiveness enhances relationship intimacy and commitment,

promotes effective conflict resolution, and has a positive influence on marital quality over time (Fincham & Beach, 2007; Paleari, Regalia, & Fincham, 2005; Tsang, McCullough, & Fincham, 2006). In view of these favorable effects, considerable effort has been devoted to identifying factors that may facilitate forgiveness in couple relationships. Another framework that has been extensively written about and frequently used to inform marital research on the topic is McCullough et al.'s (1998) social-psychological model of interpersonal forgiveness. These authors posited that the most proximal determinants of forgiving are social-cognitive variables related to the way the victim thinks and feels about the offender and the offense. A moderately proximal set of variables include features of the offense itself (e.g., perceived severity of the offense, the extent to which the transgressor apologizes). A moderately distal set of determinants of forgiving includes the qualities of the relationship in which the offense takes place, such as levels of intimacy, satisfaction, and commitment. Finally, the most causally distal determinants of forgiving are personality traits (McCullough et al., 1998). According to the McCullough et al.'s (1998) model, amongst the social-cognitive variables that may influence one's capability for forgiving, empathy for the offender is the most proximal determinant of forgiving, followed by rumination about the offense and attribution. Numerous studies offer support for this framework of forgiveness (Fincham, 2000; Fincham & Beach, 2002; Fincham et al., 2002, 2007; McCullough et al., 1998; Paleari et al., 2005) by demonstrating that marital forgiveness was directly related to the victim's emotional empathy and rumination and indirectly to the quality of the marriage (Paleari et al., 2005). Higher pre-offense marital quality was predictive of more benign attributions that in turn facilitated forgiveness both directly and indirectly via affective reaction and emotional empathy (Fincham et al., 2002). Taken together, the studies cited



earlier show that socio-cognitive variables explain considerable variance in marital forgiveness; thus, the present study excluded the more distal correlates of forgiveness and examined only the roles of proximal social-cognitive variables (i.e. empathy, rumination, and attribution) as a facilitator or hindrance of forgiveness processes following the disclosure of infidelity in committed relationships.

### **Empathy for the Offending Partner**

Empathy, in particular, has been found to facilitate many prosocial qualities which include the likelihood to forgive in general (McCullough, 2000) and in close relationships in particular (Fincham et al., 2002). However, it is important to note that in both the empathy and forgiveness literatures, there has been a lack of consensus concerning the construct of empathy and its nature which makes it difficult to generalize the findings. In empathy research, for example, empathy has generally been conceptualized in three different ways: a personality trait or ability, a cognitive or affective state determined by the situation, and a multiphasic experiential process (Duan & Hill, 1996). Likewise, forgiveness researchers have used the term to allude to either a stable trait (e.g. Burnette et al., 2009) or an affective state (e.g. Paleari et al., 2005). For the purpose of this study, empathy is conceptualized as an affective state injured partners experience in response to infidelity and can be defined as a vicarious emotion that is congruent with but not necessarily identical to the emotion of another person. This definition of empathy is adapted from Batson and Shaw's (1991) definition of emotional empathy and includes concepts such as sympathy, compassion, tenderness, and caring. I used this situationally-determined empathy rather than trait empathy approach because empathy for the offender has been theoretically assumed and empirically shown to be related to forgiveness (Fincham et al., 2002; McCullough et al.'s,

1998) and because recent research examining empathy and situational forgiveness has employed the affective empathy approach (e.g., Fincham et al., 2002; Paleari et al., 2005; Paleari et al., 2009).

In the interpersonal forgiveness literature, empathic victims have been found to be less avoidant, less vengeful, and more benevolent towards offenders, hence making it easier to forgive (Fincham et al., 2002; McCullough et al., 1998). In a similar vein, several studies also found that higher levels of affective empathy and time spent empathizing with the transgressor are related to interpersonal forgiveness and marital forgiveness (Fincham et al., 2002; Paleari et al., 2005; Worthington et al., 2000). Drawing from McCullough et al.'s (1998) model and previous forgiveness research, I therefore assumed that the injured partner's propensity to forgive after the occurrence of infidelity in committed relationships depends largely on his/her ability to empathize with the offending partner. Indeed, empirically-tested interventions for encouraging forgiveness to cope with betrayals in marriage such as Gordon and Baucom's (1998) three-stage forgiveness model appeared to work in part through enhancing the injured partner's empathy for the offending partner (Baucom et al., 2006). Specifically, a major therapeutic goal during the second stage of Gordon and Baucom's (1998) forgiveness model is to "aid the partners in exploring the factors contributing to the betrayal and in developing empathy for each other's experience" (p. 10). They posited that as the injured partner begins to empathize with the offending partner, this empathy may enable them to form more benign or balanced attributions for the betrayal. Clearly, corrective empathic relational experience between the injured and offending partners is crucial for facilitating relational healing and forgiveness.

## **Rumination**

Rumination, on the other hand, appears to interfere with the process of achieving forgiveness following interpersonal transgressions (McCullough, 2000). The more one ruminates about an offense, the more difficult it is to forgive the offender. Intrusive rumination, which involves being troubled by thoughts, affects, and images about the offense, and any attempt to suppress these ruminative thoughts, was found to be related to higher levels of avoidance (McCullough et al., 1998). Further, Fincham et al. (2002) found evidence that individuals who have trouble extinguishing ruminative thoughts about an offense were more likely to seek revenge and have a more difficult time forgiving. In the first study that examined the role of rumination in marital forgiveness, Paleari and colleagues (2005) found that rumination and empathy independently predicted concurrent marital forgiveness such that spouses experiencing emotional empathy toward the offending partner and who do not ruminate about the offense were more benevolent and more forgiving in comparison to those who reported lower empathy and more rumination. In combination, the aforementioned findings suggest that injured partners who show greater rumination about the offense (i.e., infidelity) are less likely to forgive.

## **Attribution**

Finally, within the broader forgiveness literature, attribution for the offending behavior has been found to be a significant predictor of forgiveness, such that benign attributions are associated with greater levels of forgiveness than are non-benign or conflict-promoting attributions (Boon & Sulsky, 1997; Fincham et al., 2006). Attribution theorists postulate that attributions or explanations that people make for an event or behavior dictate their subsequent reactions (e.g., Heider, 1958; Kelly, 1973). Such models have inspired

numerous studies on attribution within the context of close relationships, in an effort to better understand how partners make meaning and respond to each other's behavior. For instance, in a sample of 128 Italian married couples, Fincham and colleagues (2002) found that benign attributions were associated with forgiveness through negative emotional reactions to the transgressing spouse. Nevertheless, this study has important limitations as it used hypothetical scenarios of marital transgressions and did not address actual forgiving but only the willingness to forgive; hence, the results cannot be confidently extended to forgiveness following an actual transgression.

Applying attribution framework to infidelity, Hall and Fincham (2006) studied 87 individuals who had experienced infidelity in a romantic relationship and found that injured partners' attributions for his or her partner's unfaithful behavior influenced his or her subsequent behavioral response. Specifically, those who made internal, global, and stable attributions for the infidelity (e.g. "My partner cheated because he/she is untrustworthy, no matter the situation, and isn't going to change") were more likely to have negative or relationship-destructive reactions (e.g., terminating the relationship), whereas those who made external, specific, and unstable attributions (e.g. "My partner only cheated because he/she got put in a bad situation and he/she won't cheat again") were more likely to engage in relationship-constructive behaviors (e.g., forgive and reconcile with the partner). Moreover, forgiveness was found to fully mediate the association between attributions and relationship termination. Evidently, forgiveness and reconciliation are made possible by the latter more benign attributions as compared to the former, conflict-promoting attributions. This result is consonant with research indicating that attributions developed in response to a

partner's negative behaviors are important in understanding willingness to forgive the partner (Fincham et al., 2002).

While it may seem obvious that empathy, rumination, and attribution play significant roles in the forgiveness of a partner's unfaithfulness, researchers, with the exception of Hall and Fincham's (2006) study, have not assessed the associations between these variables and forgiveness in the context of infidelity in committed relationships. In the current study, I integrated the research on infidelity with the theoretical model of forgiveness to help shed light on the ways in which empathy for the offending partner, rumination, and attribution predict forgiveness specifically related to infidelity within a committed relationship. I also sought to replicate Hall and Fincham's (2006) findings.

### **Sociocognitive Correlates of Forgiveness as Mediators in the Attachment-Forgiveness Link**

Attachment theory seems particularly fitting in providing a theoretical basis for understanding the process of achieving forgiveness following the disclosure of infidelity. Intuitively, it seems that secure attachment (i.e. low AAnx and AAvoid) would facilitate the achievement of forgiveness following an affair, whereas insecure attachment (i.e. high AAnx or AAvoid or both) would hinder the process. Although the attachment-forgiveness link has been established by several researchers (e.g., Kachadourian et al., 2004; Lawler-Row et al., 2006), it is less clear what mediating mechanisms are involved. More recently, research linking attachment insecurity and forgiveness has been shifting from an examination of simple bivariate linear relationships to multivariate interactional models that assess the roles of mediators and/or moderators of this relationship (e.g. Burnette et al., 2007; Burnette et al., 2009; Lawler-Row et al., 2006). In the current study, I proposed that a cognitive-affective

explanation, one that is rooted in insecurely attached individuals' difficulty with emotion-regulation in times of relationship threat (Mikulincer, 1998), may shed light on the attachment-forgiveness link. More specifically, I posited that rumination, attribution, and empathy – the sociocognitive correlates of forgiveness from the McCullough et al.'s (1998) model – can be useful for understanding differences in propensity to forgive among individuals with different attachment orientations. There are important parallels between attachment orientation and predictors of forgiveness. For example, securely attached individuals share many of the positive characteristics of dispositionally forgiving people such as effective emotion-regulation, empathy, and agreeableness (McCullough et al., 2003). On the contrary, dispositionally unforgiving individuals and insecurely attached people tend to react more negatively to threatening relational events; for example, they have greater tendency to ruminate (e.g. Berry et al., 2005; Brown & Phillips, 2005; Burnette et al., 2007), and are more likely to make nonbenign or conflict-promoting attributions (e.g. Gallo & Smith, 2001). The studies reviewed below highlight several commonalities between attachment and sociocognitive determinants of forgiveness.

Integrating the research on attachment theory and forgiveness, Burnette and colleagues (2007) conducted two separate studies using convenience samples (i.e., undergraduate students) and found that angry rumination mediated attachment orientation and trait forgivingness such that insecurely attached individuals (classified as preoccupied, dismissing, and fearful) reported lower levels of forgivingness due to their tendency to engage in excessive angry rumination relative to those who were securely attached. In a different study, Burnette et al. (2009) examined the link between insecure attachment and forgiveness and found that this relationship was partially mediated by excessive rumination

for individuals high in AAnx, but was fully mediated by the lack of empathy for the transgressor among individuals high in AAvoid. The failure to detect full mediation between AAnx and forgiveness is probably a reflection of the internal bipolar pulls associated with AAnx. Specifically, it is possible that individuals high in AAnx (i.e., having a negative model of self) may be more likely to forgive due to their overwhelming fears of abandonment; hence forgiveness would be a path to relationship maintenance and continuation. Nevertheless, their tendency to ruminate on their anger may at times upstage their anxiety over being abandoned, thus making it harder for them to achieve forgiveness. It is important, however, to note that the studies reviewed have important limitations. First, the sample was limited to undergraduate students whose relationship status was either unknown (Burnette et al., 2007) or had been involved in a romantic relationship for at least two months (Burnette et al., 2009); therefore, the findings may not be generalizable to individuals who are currently in committed relationships in which they have experienced infidelity. Further, these studies measured forgiveness which was not situationally specific (i.e., forgiveness following occurrence of infidelity). The present study, therefore, sought to address these gaps in research.

Other studies have also demonstrated the link between adult attachment and empathy (Britton & Fuendeling, 2005; Mikulincer et al., 2001). Mikulincer and colleagues (2001) found that attachment security, as manifested in low scores along AAnx and AAvoid dimensions, was positively related to higher empathy shown to both close relationship partners and to non-intimate others, although the effect was stronger for close relationship partners. Britton and Fuendeling's (2005) study provided further evidence that AAvoid inversely relates to empathic concern, which is consistent with previous findings that suggest

avoidantly attached individuals generally have low emotional investment in others and tend to withdraw from people in times of relational distress (Mikulincer & Florian, 1998). In addition, several studies showed that people forgive to the extent that they experience empathy toward the transgressor (McCullough et al., 1998; Fincham et al., 2002). These results suggest that empathy mediates the relationship between attachment – AAvoid in particular – and forgiveness. The present study aimed to test this possibility.

Interestingly, the roles of attachment, attribution, and forgiveness have never been studied collectively in infidelity research. There are studies, however, that documented the link between adult attachment style and attribution (e.g., Collins, Ford, Guichard, & Allard, 2006; Gallo & Smith, 2001) and between attribution and forgiveness (e.g. Hall & Fincham, 2006). For example, Gallo and Smith (2001) found that attachment style was related to marital adjustment and to attribution style, with AAnx being a stronger predictor of negative attribution than AAvoid. Most importantly, negative attribution mediated the effects of attachment style on marital adjustment. Similar patterns were also found in two other studies of dating couples, which revealed that AAnx, but not AAvoid, predicted maladaptive attributions for partner transgressions, and these maladaptive attributions in turn were associated with poor relationship functioning (Whisman & Allan, 1996) and partially mediated the link between AAnx and relationship dissatisfaction (Sumer & Cozzarelli, 2004). Collins and colleagues' (2006) study provided further evidence for the association between attachment and attributions in romantic relationships. Specifically, they found that individuals high in AAnx responded to hypothetical partner transgressions by endorsing relationship-threatening (i.e., negative) attributions, experiencing greater emotional distress, and endorsing conflict-promoting behavioral intentions. In addition, their results are



consistent with findings from previous studies in that AAnx was a more consistent predictor of attributions than was AAvoid.

Although previous research has advanced our understanding of the roles of attachment style in relational outcomes, an important next step is to examine whether social-cognitive variables such as rumination, cognitive appraisals of a partner's behavior, and empathy for the offending partner mediate the effect of each attachment dimensions on forgiveness in recovering from infidelity. Drawing from attachment theory and past forgiveness research, I hypothesized that empathy for the transgressor, rumination, and attribution may act as mediators of the relations between attachment and forgiveness following a partner's infidelity.

### **The Moderating Effect of Perceived Partner Empathy**

In their review of the forgiveness literature, Fincham and colleagues (2006) pointed out that a difference exists in perspectives between the offender and the victim of transgression in that each encodes and recalls the offense in self-serving ways that are related to forgiveness. To forgive, the injured spouse usually has to “cancel a debt” (p. 423) that is bigger than one willingly acknowledged by the offending partner. In the event that the offending partner sees his or her partner's reaction to the transgression as overblown and as a result, reacts accordingly by minimizing or discounting the partner's experience, the injured partner may then feel doubly wronged and the couple may end up engaging in a chain of negative interactions that would ultimately undermine the process of recovery. Conversely, healing is much more likely to occur if the offending partner is able to express an understanding of the impact of his or her unfaithful behavior on the injured partner and empathize with the partner's experience. In fact, most of the treatment models in the

infidelity clinical literature address, either directly or indirectly, the importance of promoting the expression of understanding and empathy by the offending partner (e.g., Case, 2005; Makinen & Johnson, 2006). For example, Case (2005) wrote about the task of increasing a sense of victim empathy in the offending partner in treating affair couples. He indicated that validation, understanding, and empathy expressed by the offending partner is imperative throughout the process of apology. Further, in the attachment injury resolution model (Makinen & Johnson, 2006), successful resolution of attachment injuries requires the offending partner hear and understand the significance of the event to the injured partner and to become more emotionally engaged and express empathy, regret, and remorse. Implied in both of these models is the indispensable role that the offending partner plays in the process of healing in general, and in achieving forgiveness in particular. Gordon and Baucom (1998) concurred that forgiveness involves a “complex interaction including the person who is forgiving, the person who is being forgiven, and the dyadic interaction between these two people” (p. 426).

Obviously, recovery from infidelity involves mutual processes that occur at the dyadic level. Surprisingly, from the literature review, I could not locate a single study that has empirically examined the role of offending partner in the process of recovery. This limitation in the extant literature may be due to the practical difficulty in obtaining offending partner participation in studies addressing topic as sensitive as infidelity. Infidelity often represents a subject of deep relational pain and personal shame, and it is especially so for the transgressor. Thus, theoretically, clinically, and empirically, there is a dire need to expand on this line of research. To overcome the limits of the injured-partner-only studies, I sought to assess the expressed empathy by offending partner indirectly, that is, through the eyes of

the injured partner. In other words, my aim was to measure the injured partner's perception of the offending partner's empathy. It is well documented in the social psychology literature that there seems to be a lack of agreement among different evaluative perspectives regarding the assessment of process variables and empathy is one of them (Bachelor, 1988).

Concomitant with this finding, it is possible that the *received* empathy on the part of injured partner may or may not correspond with the actual *expressed* empathy shown by the offending partner. One could even argue that it is the injured partner's subjective experience (i.e., perception of empathy received), and not the actual expressed empathy by the offending partner, that ultimately influences his or her experience in the recovery process. In the present study, I was interested in examining how perceived partner empathy (i.e., injured partner's subjective evaluations of empathy received from the offending partner) relates to forgiveness.

Perceived empathy is a construct commonly used in psychotherapy outcome studies to assess the therapist-client relationship. The only existing experimental investigation on perceived partner empathy within close relationships context sought to examine the moderating effect of perceived partner empathy on body image and depression among a sample of 151 breast cancer survivors (Fang, Chang, & Shu, 2015). The results showed that empathy from a partner significantly moderated the relationship between body image and depressive symptoms. Depressive symptoms, resulting from a change in body image after breast cancer surgery, were minimized for individuals who reported greater perceived partner empathy as compared to those who reported low perceived partner empathy. This finding provides preliminary evidence to support the notion that perception of partner empathy allows one to feel understood and valued, which could have important implication on his or

her well-being. Extending this result to the current study, I predicted that perceived partner empathy will serve as a moderator of the relationship between attachment insecurity (AA<sub>Anx</sub> and AA<sub>Avoid</sub>) and socio-cognitive variables (rumination, attribution, and empathy) which in turn will affect forgiveness. Specifically, highly anxious individuals who perceive greater empathy from their offending partner are expected to respond to the disclosure of affair with excessive rumination and non-benign attribution to a lesser degree than those who perceive low levels of empathy from their partners, which in turn increases the likelihood to forgive. Similarly, highly avoidant individuals who perceive high levels of partner's empathy are more likely to show greater empathy toward the offending partner than those who perceive low empathy from their partner, which in turn makes them more likely to forgive. The relationships between the socio-cognitive variables and forgiveness are not expected to be moderated by perceived partner empathy because socio-cognitive variables are hypothesized to be antecedents (mediators) to forgiveness. In other words, forgiving partner's unfaithfulness is a likely outcome following a logical chain of emotional (empathy) and cognitive (attribution and rumination) responses that the injured partner engage in, even though the extent to which injured partner respond with rumination, non-benign attribution, and empathy is expected to change according to the levels of perceived partner empathy.

### **Attachment, Forgiveness, and Other Recovery Outcomes**

#### **Relationship Satisfaction**

Individual differences in attachment styles are thought to be critical in shaping one's interpersonal functioning and relationship outcomes (Collins & Read, 1990; Feeney & Noller, 1996). For instance, higher marital satisfaction was found in couples in which there was at least one securely attached partner, for securely attached adults were better able to

regulate affect in couple interactions, resulting in more harmonious and less conflicted dyadic interactions (Cohn, Silver, Cowan, Cowan, & Pearson, 1992). Some researchers, however, have conjectured that the association between attachment styles and relationship satisfaction may not be straight forward. Hence efforts have been made to explain this association by identifying the mechanisms through which attachment security relates to satisfaction. Forgiveness, for example, has been found to mediate the relation between attachment security and relationship satisfaction in both dating and married couples (Kachadourian et al., 2004). Specifically, those who were securely attached (i.e. have a positive model of self and of others) were more likely to forgive a partner's transgression. Forgiveness, in turn, predicted relationship satisfaction. A number of hypotheses have been proposed by McCullough (1997) regarding the reasons increased forgiveness leads to increased relationship satisfaction: Forgiveness reduces the effect of the transgression on (a) the ratio of positive behaviors to negative behaviors; (b) the development of negative affective perceptions of the relationship; and (c) the physiological arousal of the spouse who experienced the transgression. However, it is important to note that the studies reviewed above adopted the least sophisticated measure of attachment style; therefore, future research is needed for more extensive assessment of attachment in terms of its two orthogonal dimensions and their relationship with forgiveness and relationship satisfaction. Building on the extant research on attachment and forgiveness, and consistent with theoretical writings that link relationship valence to forgiveness (Worthington & Wade, 1999) I predicted that forgiveness – a relationship-enhancing process – serves as a mediator between the two attachment dimensions (AA<sub>Anx</sub> and AA<sub>Avoid</sub>) and relationship satisfaction post-affair; however, in light of McCullough et al.'s (1998) work, indirect links, via rumination,

attributions, and empathy, are also posited. Lastly, given the well-documented robust associations between attributions and marital satisfaction (Bradbury & Fincham, 1990), I expected a direct effect of attributions on marital satisfaction, in addition to the indirect effect via forgiveness.

### **Relational Trust**

A closely related relational outcome to relationship satisfaction is trust. Understandably, the work of rebuilding trust is a long and tedious process following infidelity. However, one qualitative study (Olson et al., 2002) reported that trust can be regained after it has been breached secondary to one partner's involvement in an affair. What remains unclear, though, is what variables promote the rebuilding of trust after it has been violated. Trust is considered a definitional element of intimacy in love relationships and a necessary condition for the development of commitment and feelings of security (Mikulincer, 1998). In the literature on interpersonal trust, trust is broadly defined on the basis of dependability and faith (Rempel, Holmes, & Zanna, 1985). This definition implies that trust is an integral part of secure attachment. Infidelity as a violation of basic trust thus represents a significant attachment injury. Such betrayal will often times shatter the injured partner's model of self and others which may lead him or her to question about partner's availability, responsiveness, and caring. Surprisingly, very few studies have empirically examined the association between adult attachment style and trust in close relationships and no study to date specifically examined attachment and trust in the context of recovering from infidelity.

A few studies suggest that adult attachment style is related to trust of others. For example, Collins and Read (1990) found that individuals who have secure attachment tend to

believe others to be trustworthy. Additionally, Mikulincer (1998) found that individuals who exhibit an insecure attachment style may find it difficult to develop feelings of trust because of their need to protect themselves from emotional hurt. Conversely, securely attached persons not only reported feeling more trusting toward partners, they were also more likely to adopt more constructive strategies in coping with the violation of trust than insecure persons. It appears reasonable to posit that forgiveness can be one relationship-enhancing choice made by securely attached individuals in reacting to partner behaviors that violate the trust they feel toward him or her which may in turn help restoring trust in the relationship. Despite the lack of research connecting these two constructs in predicting relational trust as a relational outcome in the wake of infidelity disclosure, the existing empirical evidence provides preliminary support of the mediating role of forgiveness between attachment and relational trust.

### **Psychological Distress**

Studies have shown that the disclosure of extradyadic affair can be emotionally damaging to the parties involved, especially the injured partner (Olson et al., 2002) and that couples who have experienced infidelity often times present with elevated depression (Beach et al., 1985). Naturally, one would expect reduced emotional distress as being indicative of recovery from the trauma of infidelity. It is well documented in the attachment literature that the two attachment dimensions (AA<sub>nx</sub> and AA<sub>void</sub>) are positively associated with indices of psychological distress such as depression and anxiety (e.g. Wei, Heppner, & Mallinckrodt, 2003) negative affect (e.g. Simpson, 1990), emotional distress and nervousness (e.g. Collins, 1996), and general distress symptoms (e.g. Lopez, Mitchell, & Gormley, 2002).

Recent studies have started to test more complex relations between attachment and distress. Some examples of variables that have been found to mediate the relationship between attachment and distress are dysfunctional attitudes and low self-esteem (Roberts, Gotlib, & Kassel, 1996), problem-focused coping (Lopez et al., 2001), and maladaptive perfectionism (Wei et al., 2004). One study in particular looked at the mediating role of forgiveness, along with empathy and rumination, in the relation between attachment and depressive symptoms (Burnette et al., 2009). Overall, the results indicated that forgiveness partially mediated the relation between AA<sub>Anx</sub> and depressive symptoms and fully mediated the relation between AA<sub>void</sub> and depressive symptoms. Again, as with most research on forgiveness, this study focused on trait forgiveness rather than forgiveness in specific situation where a transgression such as infidelity has occurred. I intended to extend this past work by replicating the relationships between attachment, forgiveness, and mental health ramifications (i.e. psychological distress) established in Burnette and colleagues' study (2009) in the context of recovery following infidelity disclosure.

### **Rationale and Significance of the Study**

Although extant research has identified several factors that predict forgiveness in recovery from infidelity, knowledge in this area is limited. The present study attempted to test the possibility that attachment affects recovery outcomes following infidelity via mediating variables – in this case empathy for offending partner, rumination, and attribution – as well as according to a moderating variable (i.e., perceived partner empathy) using a path analysis. This examination endeavored to provide specific insight into the mechanisms that promote the healing process from infidelity for couples who choose to remain together and recommit to their relationship.



Further, the study additionally contributes to the infidelity literature in that it offers a more detailed analysis of recovery by using a multifaceted conceptualization of both personal and relational recovery. As noted above, prior research is significantly limited by unidimensional conceptualizations of recovery – as it is typically defined as either an intrapersonal phenomenon (e.g. forgiveness, post-traumatic growth) or a relational phenomenon (e.g. relationship quality). The few studies that examined recovery from both dimensions were also subjected to mono-operation bias. The present study is therefore the first to assess recovery outcomes along both dimensions, using multiple measures for each recovery outcomes, and thereby fills an important gap in the existing literature on infidelity. Moreover, no studies to date have included relational trust as a measure of relational outcome of recovery from infidelity. Infidelity presents a significant injury to the trust in the relationship; as such, relational trust is a crucial aspect of recovery and one that should not be ignored in this line of research. Thus, the current study sought to fill this gap in the literature.

As noted previously, one significant limitation of the infidelity research is that we have more information from injured partners than from offending partners. In considering only the injured partner, however, researchers disregard a core feature of a couple relationship, that is, it takes two people to repair and restore the relationship. As much as it is important to understand the process of healing from the injured partner's perspective, it would be remiss to disregard the role of the offending partner in the reconciliation process and how he or she contributes to the recovery post-affair. The present study is therefore the first to take into consideration the role of the offending partner in the process of recovery, albeit indirectly, by assessing the injured partners' perception of empathy received from his

or her partner. Even though the construct of perceived partner empathy has never been studied in the context of recovering from infidelity, existing research evidence leads one to expect that perceived partner empathy would contribute to our current understanding of the healing process following the disclosure of affair.

In sum, findings from this study will have important clinical implications for couple therapists who work with clients who remain in their relationship after a disclosure of an affair. A better understanding of factors and mechanisms facilitating and promoting forgiveness and other recovery outcomes may provide therapists with a road map with which they could better guide clients through their long and painful journey of recovery from infidelity.

### **Exploratory Analysis and Hypotheses**

**Exploratory Analysis.** Because little is known about what contributes to forgiveness in the aftermath of infidelity, I explored the relations among a number of variables suggested by existing theory and research on relationship functioning and forgiveness. First, a significant main effect of gender has been reported in previous research such that women, as compared to men, demonstrate stronger desires to work on the relationship and are more likely to forgive their offending partners (Blow & Harnett, 2005; Gunderson & Ferrari, 2008). Another under-studied variable in existing infidelity literature that may have an impact on levels of forgiveness is the type of infidelity, namely emotional-only, sexual-only, and combined sexual and emotional (Blow & Harnett, 2005). Further, prior history of infidelity (i.e., repeated versus one-time offense) has been found to play a role in the decision to forgive ensuing infidelity (Gunderson & Ferrari, 2008). Other relationship variables that might be associated with forgiveness include length of affair, time since disclosure of affair,

time since infidelity took place, and whether or not the couple participated in therapy to address infidelity-related grievances. Unfortunately, these factors were either examined independently or never included in previous studies. Considering this weakness, I examined whether each of these variables predicted forgiveness of infidelity. Given the exploratory nature of the current study, main effects for each variable were examined in light of the link to forgiveness. However, because gender, type of infidelity, prior history, therapy experience, length of affair, time since disclosure of affair, and time since infidelity took place are not the main variables of interest for this study, they were only included in the path analysis as covariate(s) if a significant main effect(s) was found. Note that I did not test the effects of the above-mentioned variables on other recovery outcomes (i.e., psychological distress, relationship satisfaction, and relational trust) because forgiveness was hypothesized as the antecedent (mediator) to other outcome variables in the model.

**Hypotheses.** Building on Bowlby's (1969) attachment theory and previous research findings in infidelity and forgiveness literature, I proposed an overall process model that examines the links among the two attachment dimensions (i.e., AAnx and AAvoid), social-cognitive variables (e.g., rumination, negative attribution, empathy), perceived partner empathy, and various personal (e.g., forgiveness and personal distress) and relational recovery outcomes (e.g., relationship satisfaction and relational trust).

Specifically, I tested the following hypotheses:

**Hypothesis 1(a):** The effect of AAnx on forgiveness will be partially mediated by rumination and attribution for partner behavior.

**Hypothesis 1(b):** The effect of AAnx on psychological distress will be partially mediated by rumination, attribution, and forgiveness. In terms of relational

outcomes, the effects of AA<sub>Anx</sub> on relationship satisfaction and relational trust, respectively, will be fully mediated by rumination, attribution, and forgiveness. Additionally, there will be a direct effect of attribution on relationship satisfaction.

**Hypothesis 2(a):** For AA<sub>Avoid</sub>, the link to forgiveness will be fully mediated by empathy for the offending partner.

**Hypothesis 2(b):** The link from AA<sub>Avoid</sub> to psychological distress, relationship satisfaction, and relational trust will be fully mediated by empathy and forgiveness.

**Hypothesis 3:** The relationship between two attachment dimensions (AA<sub>Anx</sub> and AA<sub>Avoid</sub>) and socio-cognitive variables (rumination, attribution, and empathy toward the offending partner) will vary depending on the levels of perceived partner empathy, which in turn will affect forgiveness. Specifically, highly anxious individuals who perceive greater empathy from their offending partner will respond to the disclosure of the affair with excessive rumination and attribution to a lesser extent (buffering effect) than those who perceive low empathy from their partner, which in turn increases these highly anxious individuals' likelihood to forgive their offending partner. Similarly, highly avoidant individuals who perceive the partner's empathy as high will be more likely to show greater empathy toward their offending partner (strengthening the effect) than those who receive low empathy from their partner, which in turn makes these highly avoidant individuals more likely to forgive their partner's transgression.

## CHAPTER 2

### METHOD

#### **Participants**

When using path analysis, the minimum ratio of cases ( $N$ ) to the number of model parameters ( $q$ ) is 5:1 (Bentler & Chou, 1987). In the current study, the hypothesized moderated mediation model has 72 parameters (including covariates), indicating a required minimum sample size of 360 participants in order to detect adequate effects. A total of 418 participants were included in the present study, which exceeded the minimum targeted sample size. Of these, 80.1% were cis-women, 19.6% were cis-men. One participant (0.2%) identified their gender as transman. The average age was 44.65 years ( $SD = 10.18$  years) with a range of 20 to 73 years of age; 11 participants did not provide their age. The vast majority of the sample (85.9%) identified as White American, whereas 4.6% identified as LatinX, 4.1% were Asian/Asian American, 2.2% were Biracial/Multiracial, 1.4% were Black/African American, 1.4% were Native American, and 0.5% identified as “Other”; one participant did not provide information about race/ethnicity. Most respondents identified as heterosexual (96.2%), while 3.6% were bisexual and 0.2% identified as gay/lesbian. The majority of the sample reported possessing an undergraduate degree (34.6%); 29.8% reported having a graduate degree, 18.3% reported having a high school diploma/GED, 16.8% reported having an associate’s degree, and 0.5% reported having not completed high school.

In terms of infidelity type, a little more than three quarters of the sample (76.6%) indicated that their partner had engaged in a combined sexual and emotional affair, followed by 14.8% in sexual affair only, and 8.6% in emotional affair only. More than half of the respondents (59.7%) noted that this was the first time their partner cheated, while the remaining 40.3% noted that their partner was a repeat-offender in infidelity; four respondents did not provide information about prior history of infidelity. The average length of affair was 18.90 months ( $SD = 25.65$ ) with a range of 1 to 156 months (coding of affair length is described in Chapter 3 below). The average time elapsed since disclosure or discovery of the affair (in months) was 20.30 months ( $SD = 12.61$ ) and ranged from 6 to 60 months which was consistent with the time frame cut-off for the current study (discussed in Procedure). Most respondents (87.6%;  $n = 366$ ) reported being married at the time of affair, while the remaining 12.4% reported that they were in a committed dating relationship when infidelity took place. Interestingly, 88.0% ( $n = 368$ ) of these participants were married at the time of the current study, suggesting that two respondents who were dating their partner at the time of affair married their partner post-affair. Twelve percent of the respondents remained in the committed dating relationship at the time of survey. Therapy experience was endorsed by 69.9% of participants, while 30.1% stated that they have not sought therapy to address grievances related to infidelity. Note that for the purpose of current study, participants who reported being in therapy either at present or in the past were collapsed into the same category (i.e. “Currently/Previously in Therapy”) to create a dichotomous variable differentiating folks who have received therapy versus those who have not. This decision was made because therapy experience was not one of the main study variables; rather it was

treated as one possible covariate that may facilitate the process of recovery. Demographic information is summarized in Table 1 below.

Table 1  
*Demographics*

Characteristics	N (%)	Minimum	Maximum	<i>M</i>	<i>SD</i>
Age	407	20.00	73.00	44.65	10.18
Gender ( <i>N</i> = 418)					
Cis-woman	335 (80.1%)				
Cis-man	82 (19.6%)				
Transman	1 (0.2%)				
Race/Ethnicity ( <i>N</i> = 417)					
White	358 (85.9%)				
Hispanic/Latino/Latina	19 (4.6%)				
Asian/Asian American	17 (4.1%)				
Biracial/Multi-racial	9 (2.2%)				
African American/Black	6 (1.4%)				
Native American	6 (1.4%)				
Other	2 (0.5%)				
Sexual Orientation ( <i>N</i> = 418)					
Heterosexual	402 (96.2%)				
Bisexual	15 (3.6%)				
Gay/Lesbian	1 (0.2%)				
Highest Level of Education Completed ( <i>N</i> = 416)					
Less Than High School	2 (0.5%)				
High School Diploma/GED	76 (18.3%)				
Associate's Degree	70 (16.8%)				
Undergraduate/Bachelor's Degree	144 (34.6%)				
Graduate Degree	124 (29.8%)				
Infidelity Type ( <i>N</i> = 418)					
Combined Sexual and Emotional Affair	320 (76.6%)				
Sexual Affair Only	62 (14.8%)				
Emotional Affair Only	36 (8.6%)				

(table continues)

Characteristics	N (%)	Minimum	Maximum	<i>M</i>	<i>SD</i>
Length of the Affair (in months)	418	1.00	156.00	18.90	25.65
Time Since Affair Participation (in months)	418	1.00	125.00	22.86	18.31
Time Since Disclosure/Discovery of the Affair (in months)	418	6.00	60.00	20.30	12.61
Prior History of Infidelity ( <i>N</i> = 414)					
One-Time Offense	247 (59.7%)				
Repeated Offense	167 (40.3%)				
Relationship Status when Infidelity Took Place ( <i>N</i> = 418)					
Married	366 (87.6%)				
Committed Dating Relationship	52 (12.4%)				
Current Relationship Status ( <i>N</i> = 418)					
Married	368 (88.0%)				
Committed Dating Relationship	50 (12.0%)				
Attended Personal Therapy ( <i>N</i> = 418)					
Currently/Previously in Therapy	292 (69.9%)				
No Therapy	126 (30.1%)				

## Measures

### Demographics

The demographic questionnaire (see Appendix A) asked for participants' age, race/ethnicity, gender, sexual orientation, current relationship status, educational level, along with other variables assessing the context of the affair. These affair-specific variables include the amount of time since the infidelity took place, the amount of time since the



disclosure/discovery of the affair, length of the affair, relationship status when affair occurred, types of infidelity, prior history of infidelity, and whether the couple sought/were seeking therapy to address infidelity, and if yes, for how long.

### **Attachment**

Attachment style was measured using the Experience in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000; see Appendix B), a well-validated measure of adult attachment. The ECR-R consists of 36 items and has two subscales, Anxiety (e.g., *I worry about being abandoned*) and Avoidance (e.g., *Just when my partner starts to get close, I find myself pulling away*). Participants are asked to rate items according to how they generally experience romantic relationships. Responses are assessed on a 7-point Likert-type scale ranging from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*). Appropriate items were reversed-scored and all items on each subscale were averaged to yield respective subscale scores, with higher scores being associated with a higher endorsement of each continuum (AA<sub>Anx</sub> or AA<sub>Avoid</sub>).

The ECR-R is a revised version of the Experience in Close Relationships scale (ECR; Brennan et al., 1998) aimed to improve measurement precision for people with secure attachment styles (i.e., low anxiety and low avoidance). Fraley et al. (2000) reanalyzed the original 323-item data set from Brennan et al. (1998) and retained items based on their discrimination values alone, which resulted in the ECR-R. The revised scale has 18 items each on the Anxiety and Avoidance subscale. Subsequent item-response theory (IRT) analysis on the revised 36 items showed substantial improvement in the scale's measurement precision of the dimensions. In a validation study using a sample of 397 undergraduate students who reported having been in a romantic relationship, Fairchild and Finney (2006)

conducted a confirmatory factor analysis (CFA) which provided general support for the two-factor model originally reported by Brennan et al. (1998). The two latent factors (AA<sub>Anx</sub> and AA<sub>Avoid</sub>) were strongly correlated,  $r = .51$ . Further, the ECR-R also demonstrated good internal consistency estimates with Cronbach's alphas of .92 and .93 for the Anxiety and Avoidance subscales, respectively, which were similar to the alpha values for the original ECR ( $\alpha_{AA_{Anx}} = .91$  and  $\alpha_{AA_{Avoid}} = .94$ ) as reported by Brennan et al. (1998). For the current study, the ECR-R had internal consistency estimates of .92 for both the Anxiety and Avoidance subscales, which is excellent reliability. Finally, construct validity of the ECR-R has also been established with theoretically consistent findings, including significant correlations in expected directions with other measures of preferences for touch, loneliness, social support, and worry (Fairchild & Finney, 2006).

### **Rumination**

Rumination about intrusive thoughts, affects, and imagery related to the offense (i.e., infidelity) were assessed using the seven-item Intrusiveness subscale (see Appendix C) of the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979). The IES was originally created for the study of bereaved individuals but has been widely used for exploring the psychological impact of a variety of traumas (Sundin & Horowitz, 2002). Researchers and clinicians have described disclosure of infidelity as a traumatic life-changing event for most people (Heintzelman et al., 2014; Makinen & Johnson, 2006); therefore, the use of IES in this study is warranted. Given that the focus of the present study is on rumination, only the Intrusion subscale will be used. Intrusion was characterized by unbidden thoughts and images, troubled dreams, strong pangs or waves of feelings, and repetitive behavior (Horowitz, et al., 1979). Participants indicate the frequency of the experience of each item

on a 4-point scale (0 = *Not At All*, 1 = *Rarely*, 3 = *Sometimes*, 5 = *Often*). Examples of items include *I thought about it when I didn't mean to* and *I had waves of strong feelings about it*. The total scores on the Intrusion subscale have a possible range of 0 to 35, with higher scores indicating a greater frequency of rumination.

In the original report on the IES (Horowitz et al., 1979), adequate test-retest reliability ( $r = .87$ ) was reported for the Intrusion subscale; time between measurements was one week. A meta-analytical study conducted by Sundin and Horowitz (2002) evaluated the psychometric properties of the IES based on data from 23 studies; results showed that the mean  $\alpha$  for the Intrusion subscale was .86 (range .72 to .92). Cronbach's alpha for the Intrusion subscale of the IES in the current study was .72, indicating acceptable internal consistency. In regards to criterion validity, mean correlation between the Intrusion and Avoidance subscales was .63, suggesting that the subscales were relatively independent of one another. The Intrusion subscale which has been previously used in marital research (e.g. Paleari et al., 2005; Paleari et al., 2009) to assess for rumination has also demonstrated convergent validity, exhibiting positive correlations with measure of resentful motivations and negative correlation with a measure of marital quality.

### **Attribution**

The Relationship Attribution Measure (RAM; Fincham & Bardbury, 1992; see Appendix D) is a 6-item measure that assesses *causal* (3 items; Internal, Stable, Global) and *responsibility* (3 items; Intentional, the degree to which the behavior is viewed as Selfish in Motivation and Blameworthy) attributions for a partner's behavior in four to eight hypothetical stimulus events. However, a modified version of RAM previously employed in a study of infidelity (Hall & Fincham, 2006) was used in this study whereby participants are

asked to complete this measure solely in regard to their partner's unfaithful behavior. Example items include *My partner deserves to be blamed for his/her unfaithful behavior* and *The reason my partner had an affair is not likely to change*. Items are rated on a 6-point Likert-type scale (1 = *disagree strongly*; 6 = *agree strongly*); responses are averaged across items so that higher scores reflect attributions that accentuate the impact of the infidelity (e.g. see it as more internal, stable, global, intentional, selfish, and blameworthy); hence, are non-benign or negative in nature. In the initial validation study, evidence for the reliability of the RAM scale was demonstrated by its acceptable internal consistency ( $\alpha > .70$ ) and moderate to high three-week test-retest reliability ( $r_{\text{causal}} = .84$  and  $.72$  and  $r_{\text{responsibility}} = .87$  and  $.61$  for wives and husbands, respectively; Fincham & Bradbury, 1992). Regarding the scale's criterion validity, the RAM scores have been found to be negatively correlated with marital satisfaction and positively correlated with observed marital behaviors such as whining and anger (Fincham & Bradbury, 1992).

It should be noted that it has been a matter of debate whether individual attribution dimensions should be forgone in favor of a composite attribution score that collapses scores across both dimensions (Fincham & Bradbury, 1992). Although acknowledging the possibility of precluding the identification of correlates unique to each attribution dimensions, Fincham and Bradbury (1992) argued in favor of using composite scores in research on close relationships, claiming that composite scores tend to show the highest reliability and validity coefficients and may yield a broader range of correlates than their constituent attribution dimensions. Considering there is a moderate correlation between two factors, *causal* and *responsibility*, ( $r = .37$ ), as well as in keeping with Fincham and

Bradbury's (1992) recommendation, I used the composite RAM score rather than the subscale scores in the current study.

Cronbach's alpha in the current study was originally calculated at .49, suggesting that the items may not be measuring the same underlying construct. Of the six items, one (i.e. item 3, "*The reason my partner was unfaithful is something that affects/affected other areas of our relationship*") was found to have a very low item-total correlation ( $r = .14$ ) and greatly compromised the reliability of this scale. However, deletion of this item would only minimally raise the internal consistency of the scale to  $\alpha = .51$ , which is still below the minimum .70 threshold. Subsequently, two exploratory factor analyses (EFAs) were conducted to further examine the factor structure of the scale. Principal axis factoring (PAF) was used for factor extraction; promax was employed as the rotation method because it allows the two factors to correlate. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was deemed acceptable (.66), and Bartlett's test of sphericity was significant, indicating that it would be appropriate to proceed with a factor analysis of the proposed variables. The first factor analysis with an unspecified number of factors yielded a two-factor solution explaining 26.66% of the item variance based on the Kaiser's eigenvalue greater than 1 criterion. Visual inspection of the scree plot also indicated a two-factor model consonant with intended factor structure of the RAM. However, closer examination revealed that Item 3 had very low communalities (.10) thus providing more evidence for removal of this item. All other items, except for Item 5, also had relatively low communalities (ranged between .17 - .23). Additionally, the factor loading was confusing because Item 1 loaded on Factor 1 (Responsibility) instead of Factor 2 (Causal) as theorized. Item 2 and 3 loaded on Factor 2 as expected but Item 4 cross-loaded on both factors with almost equal loading. The

most problematic items, namely Item 3 (lowest item-total correlation) and Item 4 (cross-loading) were dropped for the second analysis using ML with the remaining four items.

For the second factor analysis, KMO measure of sampling adequacy was barely acceptable at .61; and Bartlett's test of sphericity was also significant, indicating that it would be appropriate to proceed with a factor analysis. As expected, only one factor was extracted and Item 2 had an item loading fewer than .30. Goodness of fit test also approached significance,  $\chi^2(2) = 5.94, p = .051$ . Cronbach's alpha decreased from  $\alpha = .49$  to .46. Item 2 had the lowest item-total correlation as expected ( $r = .18$ ). Overall, the results of the second factor analysis indicated that the internal structure for RAM did not improve by dropping both items 3 and 4.

A review of the reliability estimate for the full scale RAM scores in an infidelity study by Hall and Fincham (2006) using a sample of 87 (53 male and 34 female) provided direction. Consistent with the results of the present study, Item 3 was found to have a very low item-total correlation and dropping the item allowed them to achieve a Cronbach's alpha of .70 for the full scale, which is similar to the alpha reported by the samples from the original scale development study (Fincham & Bradbury, 1992). In explaining their rationale to remove Item 3, Hall and Fincham (2006) argued that "this item is somewhat abstract and the low item-total correlation for this item may reflect participant difficulty in understanding exactly its intended referent" (p. 514). It is also important to note that participants are typically asked to complete the RAM in response to four or eight hypothetical stimulus events (Fincham & Bradbury, 1992); however, the present study and the Hall and Fincham's (2006) study only presented one stimulus event (i.e. infidelity); therefore, there were fewer items to support the intended factor structure. Further, in the present study, the inter-item

correlations were mostly weak, with a few that were moderate, which provided further evidence that the items did not relate very strongly to one another. This may explain why there was only a slight improvement in the internal consistency of the scale ( $\alpha = .51$ ) despite removal of Item 3. Given the benefit of preserving generalizability, I chose ultimately to proceed with adopting Hall and Fincham's (2006) approach of dropping Item 3 and using the composite scale score. For the main analyses, the five-item scale was retained, and results were interpreted cautiously.

### **Empathy for the Offending Partner**

Affective empathy (AE) for the offending partner was measured with a four-item scale (see Appendix E) previously used in studies of interpersonal forgiveness and marital forgiveness (e.g., McCullough et al., 1998; Paleari et al., 2009) in which participants are asked to rate on a 6-point scale ranging from 0 (*not at all*) to 5 (*extremely*) the extent to which they felt each affect (i.e., *empathic*, *concerned*, *moved*, and *softhearted*) toward the offending partner. Responses were summed to form index of empathic concern with higher scores indicating greater affective empathy. This four-item version is a short form of an eight-item empathy measure originally used by Batson and colleagues (Coke, Batson, & McDavis, 1978). Results from factor analysis revealed that *moved*, *softhearted*, *touched*, *empathic*, *warm*, *concerned*, *compassionate*, and *intent* all loaded highly (loadings  $> .60$ ) on a single factor.

In previous studies (McCullough, Worthington, & Rachel, 1997; McCullough et al., 1998), the short form's internal consistency ranged from .88 to .90. In the current study, Cronbach's alpha for the four-item version of AE was found to be good at .83. The scale demonstrated good criterion validity as indicated by strong positive correlation with

relationship closeness ( $r = .73$ ) and negative correlations with avoidance behavior ( $r = -.80$ ) and revenge ( $r = -.46$ ; McCullough et al., 1998).

### **Perceived Partner Empathy**

Perceived partner empathy was assessed using the Empathic Understanding (E) subscale (see Appendix F) of the Barrett-Lennard Relationship Inventory, 1964 Revision (RI-Form OS-M-64; Barrett-Lennard, 1978). Even though the RI was originally developed to measure empathy, regard, congruence, and unconditionality in therapeutic relationship, Wampler and Powell (1982) as well as Ganley (1989) have convincingly showed that the RI can be used to measure aspects of marital relationships. Of the four subscales, only the Empathic Understanding (E) subscale, defined as “the extent to which one person is conscious of the immediate awareness of another” (Barrett-Lennard, 1962, p. 3), was included in the current study. There are two parallel forms of the RI: Form MO is focused on how one individual feels toward another whereas Form OS assesses how one perceives the other person’s response to oneself (e.g. *He usually understands the whole of what I mean*). The wording of the items on Form OS clearly indicates that the responses are in terms of perceptions, rather than facts (Wampler & Powell, 1982); hence, it is appropriate for the purpose of this current investigation (i.e. measuring *perceived* partner empathy). Nevertheless, the word “*He*” was changed to “*My Partner*” to be consistent with the target sample of the current study. The E subscale contains 16 items (8 positively worded and 8 negatively worded items); the responses for each item range from +3 (*Yes, I strongly feel that it is true*) to -3 (*No, I strongly feel that it is not true*), yielding a total score with a range from +48 to -48. Negatively worded items were reversed scored so that higher scale scores for E reflect greater perceived partner empathy. Sample items include *He (My partner) nearly*



*always know exactly what I mean* (positively worded) and *He (My partner) just takes no notice of some things that I think or feel* (negatively worded).

In a review of the use of the RI in studies of marital relationship, Wampler and Powell (1982) reported that the RI has considerable construct validity as indicated by substantial correlations (average *r*s of about .65 for both the subscales and the total) with Spanier's Dyadic Adjustment Scale and Locke's Marital Adjustment Scale. Further, scores on the RI have also been found to differentiate between distressed and non-distressed couples (Wampler & Powell, 1982). The E subscale also demonstrated good internal consistency ( $\alpha = .88$ ; Anita, 1988). The E subscale of RI in the current study yielded a Cronbach's alpha of .90, suggesting strong reliability.

### **Forgiveness**

The Marital Offense-Specific Forgiveness Scale (MOFS; Paleari, Regalia, & Fincham, 2009; see Appendix G) is a 10-item self-report measure assessing offense-specific forgiveness for marital transgressions. I selected the MOFS in lieu of two other marital forgiveness scales (the Marital Forgiveness Scale and the Forgiveness Inventory) as the measure of forgiveness because the conceptualization of offense-specific forgiveness as a "motivational change whereby one becomes less motivated to exact revenge or withdraw from the offending partner and more motivated to be benevolent and conciliatory toward him/her" (Paleari et al., 2009; p. 194-195) seems particularly fitting for the purposes of this current investigation and also because the other existing scales have questionable criterion-related validity and content validity for marital forgiveness research (Paleari et al., 2009). However, in order to make the scale consistent with my goal of assessing forgiveness in couples in committed relationships, items were modified so that they refer to romantic

partners (i.e. *My partner*) in general rather than to spouses (i.e. *My husband* or *My wife*) only. The scale comprises two distinct yet correlated dimensions, one positive (4-item Benevolence; e.g. *I forgave her/him completely, thoroughly*) and one negative (6-item Resentment-Avoidance; e.g. *Because of what happened, I find it difficult to be loving toward her/him*). Participants rate each item on a 6-point scale ranging from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*) their degree of forgiveness. Items on the Resentment-Avoidance were reversed-scored so that the total scores reflect higher levels of forgiveness.

Paleari et al.'s (2009) initial validation of the MOFS in 328 married couples across three studies supported a two-factor structure, suggesting that the presence of benevolent and conciliatory motivation toward the offending spouse cannot be inferred from the absence of resentful and avoidant motivation toward the partner. The authors argued that the absence of negative reactions and the presence of positive reactions toward the offending spouse are both needed in order to fully assess marital forgiveness. For this reason, the total score (i.e., sum of averaged subscale scores) was used for the analyses in the present study, with higher scores indicating higher forgiveness. Despite their brevity, the range of internal consistency estimates for subscales were in the acceptable to good range across three studies: Benevolence ( $\alpha = .75 - .84$ ) and Resentment-Avoidance ( $\alpha = .79 - .89$ ). Cronbach's alpha for the full-scale MOFS in the current study was good ( $\alpha = .83$ ) and its subscales also yielded acceptable internal consistency (Benevolence  $\alpha = .75$ ; Resentment-Avoidance  $\alpha = .76$ ). Further, data from the three validation studies (Paleari et al., 2009) yielded evidence that the MOFS has satisfactory psychometric properties such that both subscales demonstrated discriminant, convergent, and predictive validity. Specifically, Benevolence was negatively correlated with rumination and responsibility attributions and positively correlated with

empathy and marital quality whereas inverse relationships were observed between Resentment-Avoidance subscale and the abovementioned variables. Convergent validity of the scale was indicated by significant relationships between its subscales and a host of socio-cognitive (e.g. offense severity), relationship (e.g. closeness, marital quality), and well-being (e.g. stress, satisfaction with life) correlates of forgiveness. Finally, providing evidence for predictive validity, scores on both dimensions accounted for variability in relationship variables over a 6-month period (Paleari et al., 2009).

### **Psychological Distress**

The Hopkins Symptom Checklist – 21 (HSCL-21; Green, Walkey, McCormick, & Taylor, 1988; see Appendix H), an abbreviated form of the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), is a 21-item self-report measure of psychological distress widely used in the social sciences literature. The instrument contains three subscales that serve to screen for (a) General Feelings of Distress, (b) Performance Difficulty, and (c) Somatic Distress. In completing the HSCL-21, the participants are asked to indicate their level of distress during the past month on a 4-point Likert-type scale ranging from 1 (*not at all*) to 4 (*extremely*). Sample items include *feeling lonely* (General Feelings of Distress), *trouble remembering things* (Performance Difficulty), and *pains in the lower part of your back* (Somatic Distress). A composite HSCL-21 score is derived from the average of the mean scores for three subscales and is used as an index of distress with higher scores indicating greater levels of psychological distress.

The HSCL-21 has demonstrated good convergent and divergent validity with a variety of measures of psychological and physical health in both clinical samples and non-clinical samples (Cepeda-Benito & Gleaves, 2000; Deane, Leathem, & Spicer, 1992; Green

et al., 1988). For example, in regard to construct validity, Deane and colleagues (1992) found that a clinical sample scored significantly higher than a non-clinical sample and that for the clinical sample, scores on the HSCL-21 decreased significantly from pre- to post-therapy. Further, they also found moderate correlations between HSCL-21 scores and scores on similar measure such as the Brief Hopkins Psychiatric Rating Scale (BHPRS), indicating moderate concurrent validity. In addition, the reliability of the HSCL-21 has been shown to be consistently high with a corrected split-half reliability of .91 and a Cronbach's alpha of .90 for the total distress score (Green et al., 1988). Vogel and Wei (2005) also reported an excellent full-scale internal consistency of .90. Cronbach's alpha for the full-scale HSCL-21 in the present study was determined to be excellent at .94.

### **Relationship Satisfaction**

Relationship satisfaction was measured using the Dyadic Adjustment Scale (DAS; Spanier, 1976; see Appendix I), a commonly-administered, 32-item self-report measure. All items are rated on a 5-point Likert type scale ranging from 0 (*Always Disagree*) to 5 (*Always Agree*), with higher scores indicating more positive dyadic adjustment. The DAS comprises four dimensions of marital functioning: Dyadic Consensus (13 items; the degree to which the couple agrees on matters of importance to the relationship), Dyadic Cohesion (5 items; the degree of closeness and shared activities experienced by the couple), Dyadic Satisfaction (10 items; the degree to which the couple is satisfied with their relationship), and Affective Expression (4 items; the degree of demonstrations of affection and sexual relationships). Even though most researchers use the full scale scores (i.e. sum of scores) of the DAS as a global assessment of marital functioning (Spanier & Thompson, 1982), Spanier argued that the subscales could be used alone “without losing confidence in the reliability and validity of

the measure” (1976, p. 22). Given that the current investigation assessed relationship satisfaction, only the corresponding subscale (i.e. Dyadic Satisfaction) was used in the main analyses.

Data from a sample of combined married ( $N=109$ ) and divorced ( $N = 41$ ) individuals in the original scale development study supported a four-factor structure (Spanier, 1976). Several confirmatory and exploratory factor analyses studies (e.g. Graham, Liu, & Jeziorski, 2006, Kurdek, 1992; Shek & Cheung, 2008; Spanier & Thompson, 1982) also presented findings that were consistent with the four-factor model. In regard to construct validity, total DAS scores have been consistently shown to discriminate between distressed and non-distressed couples and have been shown to identify couples with a high likelihood of divorce (Crane, Busny, & Larson, 1991; Spanier & Thompson, 1982). Also indicative of convergent validity, the DAS scores were found to be positively correlated with other measures of relationship quality (e.g., love for partner, liking of partner, marital satisfaction) across heterosexual married and gay and lesbian cohabiting couples (Kurdek, 1992). The internal consistency reliability of the full scale (Cronbach’s  $\alpha = .96$ ) and the Dyadic Satisfaction subscale (Cronbach’s  $\alpha = .94$ ) are shown to be excellent for the original sample used in the scale development study and for a sample of separated and divorced individuals used in a subsequent confirmatory factor analysis ( $\alpha_{Total} = .91$  and  $\alpha_{Dyadic\_Satisfaction} = .85$ ; Spanier & Thompson, 1982). The DAS also has good test-retest reliability ( $r = .96$ ) after 11 weeks (Spanier, 1976). The Dyadic Satisfaction subscale of the DAS showed good internal reliability for the current study, with a Cronbach’s alpha of .86.

## **Relational Trust**

The 17-item Trust Scale (Rempel, Holmes, & Zanna, 1985; see Appendix J) is a self-report measure of levels of trust within close interpersonal relationships. The Trust scale consists of three subscales: Predictability (P), that emphasizes the consistency and stability of a partner's specific behaviors based on past experience, Dependability (D), that focuses on the dispositional qualities of the partner which warrant confidence in the face of risk and potential hurt, and Faith (F), that centers on feelings of confidence in the relationship and the responsiveness and caring expected from the partner in the face of an uncertain future (Rempel et al., 1985). Some sample items include: *My partner behaves in a very consistent manner* (P), *I can rely on my partner to keep the promises he/she makes to me* (D), and *When I am with my partner, I feel secure in facing unknown new situations* (F). Items are rated on a 7-point Likert-type scale ranging from -3 (*Strongly Disagree*) to 3 (*Strongly Agree*), with higher scores reflecting higher levels of trust. The average of three subscale scores yield an overall trust in close relationships score.

In developing the scale, a factor analysis with an oblique rotation was conducted and the results supported three-factor structure; the correlations among subscales ranged from .28 to .46, suggesting that the three subscales were moderately correlated (Rempel et al., 1985). The initial scale development study (Rempel et al., 1985) with a sample of 47 couples indicated acceptable to good internal consistency for the subscales (Cronbach's alpha = .80, .72, and .70 for the Faith, Dependability, and Predictability subscales, respectively) and the overall score (alpha = .81). A study done by Collins and Read (1990) has also shown good internal reliability estimates of the subscales for a sample of 71 dating couples (Cronbach's alpha = .86 for Predictability, .77 for Dependability, and .76 for Faith).

Moreover, the alpha coefficient for the total scale was .89 for a sample of 35 married or cohabiting couples in Rempel and Holmes' (2001) study of trust and communicated attributions in close relationships. In the current study, Cronbach's alpha for the total scale was .93, indicating excellent internal reliability. In terms of both predictive and discriminant validity, all three elements of trust have been found to be correlated with measures of love and happiness while faith, in particular, was uniquely tied to perceptions of a partner's intrinsic motivation (Rempel et al., 1985).

### **Procedure**

Participants were recruited via online support forums specifically designated for individuals recovering from infidelity (e.g., Infidelity Help Group, Daily Strength, Marriage Builders, etc.). Additionally, participants were solicited on social media sites such as Facebook and Twitter. To be eligible to participate in this study, participants had to be (a) 18 years of age or older, (b) proficient in English language, (c) currently still in a committed relationship with a partner who had committed either emotional-only, sexual-only, or combined type of infidelity during the course of their relationship, and (d) the disclosure or discovery of infidelity took place at least six months but less than five years before the time of participation in the study. This time frame is based on the following rationales: (a) recovery and forgiveness take time to emerge (Heintzelman et al., 2014), and yet, (b) the cognitive and affective experiences at the time of infidelity may become less salient as individuals move through the forgiveness process. In their study on forgiveness and post-traumatic growth post-affair, Heintzelman and colleagues (2014) found that there was a floor effect on levels of recalled trauma, which could reflect attenuation due to the considerable time that had elapsed since the disclosure of affair (i.e., ranged from 6 months to 38 years

with an average of 3.9 years). Consistent with this assumption, Horowitz (1976) also claimed that intrusive (and avoidant) symptoms following stressful life events will become less frequent over time as the implications of the stressor event are digested. Considering the retrospective nature of the current study, I proposed a cutoff that is not too far out from the time of affair to minimize systematic distortions in participants' recollection of the event.

Electronic survey was used to collect data from participants in the current study. Commencement of the study began upon approval from the Institutional Review Board (IRB) at the University of Missouri – Kansas City. Once IRB approval was granted, I constructed an electronic version of the survey in REDCap. A solicitation script (see Appendix K) containing a link to the electronic survey was posted to various online discussion forums throughout the course of one and a half years. To speed up the data collection process, I also reached out to the administrators of these discussion forums and/or webpages to request to post my participation request to their listservs. In addition, social networking websites such as Facebook was utilized to disseminate the solicitation message. Aside from posting on researcher's individual page, I also targeted specific closed groups on Facebook such as "Reconciling After Infidelity," "Infidelity Support Group," "Healing After the Affair Support Group," and so forth. The survey link contained in the solicitation message directed participants to a page that reiterated information such as the description of the study, eligibility to participate, participants' rights, and the potential risks and benefits of participation. Participants were asked to electronically sign an informed consent (see Appendix L) by checking a box before they were able to access the survey.

The participants were asked to complete the following measures: Demographics questionnaire, ECR-R, Intrusiveness subscale of the IES, RAM, affective empathy (AE)



scale, Empathic Understanding (E) subscale of the RI, MOFS, HSCL-21, DAS, and Trust scale. Note that participants were instructed to respond to the Intrusiveness scale regarding the infidelity. Participation was completely voluntary and no personally identifying information was collected to ensure anonymity. Further, all participants were free to withdraw from the study at any time. At the end of the study, all participants were presented with the option to enter a raffle to win one of 10 \$50 Amazon.com e-gift cards. Participants who chose to enter the drawing were then directed to a separate page designed in REDCap where they were asked to enter their contact information (see Appendix M). Participants' responses to the survey were not linked to their email address, and only the principal investigator had access to participants' email. Ten winners were selected at random using a random number generator (at <http://www.random.org>) after data collection ended. They were contacted via email and provided the electronic gift cards to Amazon.com.

## CHAPTER 3

### DATA ANALYSIS

#### **Data Preparation**

##### **Data Screening**

Upon completion of data collection, a total of 967 individuals had accessed the survey. I removed participants who dropped out of the study before responding to a single measure ( $n = 212$ ) and those who were missing one or more entire scales ( $n = 227$ ), resulting in 528 remaining participants. I then examined whether the remaining participants met the inclusion criteria for the study. Three respondents did not report their current relationship status; one of them indicated that the affair was likely still ongoing and was thus removed from the study. The missing values for the remaining two respondents were replaced with 2 (i.e., Married) because it was assumed that they remained in the same relationship where the infidelity took place and the status of the relationship has not changed. In regard to time since disclosure/discovery of the affair, four respondents left the question blank, 37 reported less than six months since time of disclosure and three indicated more than five years, violating the requirement of the study, and were thus excluded from participation. Of the remaining 483 participants, 8 respondents answered “0” to time since the infidelity took place (in months) whereas two respondents left the question blank. Based on their responses to other survey items (e.g. time since disclosure, affair length), it is safe to assume that their partner was still having an affair at the time of survey. Given that an ongoing affair constitutes a very different circumstance than the one this study sought to examine (i.e. post-

affair recovery), these cases were subsequently removed from the study, leaving 473 participants in total.

Finally, a closer examination on the length of affair variable revealed that there was a wide range of responses ranging from one-night stand to 35 years. To address this issue, I consulted my committee chair and a faculty member adept in research methodology and then individually examined descriptive statistics for these cases. We agreed to drop cases with vague descriptive or unclear responses such as “unsure”, “unknown”, “multiple affairs” ( $n = 30$ ). Those who answered “ongoing” to this question ( $n = 5$ ) were also excluded from the study for the same rationale mentioned above. As for the remaining responses, I decided on the smallest interpretable unit as one month and translating the responses accordingly. For example, any response of one month or less (e.g. “1 night,” “7 days”) would be recoded as one month, between one and two months as two months, one year as twelve months, and so on. Moving forward, I retained 438 participants for the preliminary and main analyses.

### **Preliminary Analyses**

Univariate outliers for all study variables were examined for undue influence on the distribution of each variable. One case from the Avoidance subscale of the ECR-R was dropped from the study for being z-score outlier. The IES Intrusiveness subscale included six cases that exceeded three standard deviations from the mean hence the outlier scores were removed. Another case from the DAS Satisfaction subscale was deleted due to being a z-score outlier. Finally, although certain demographic variables such as gender, types of infidelity, prior history of infidelity, length of the affair (LOA), and time since participation in affair (TSA) were not part of the hypothesized model, they were theorized to correlate with the outcome variable, forgiveness, and thus were included in further analyses. Nine

cases of LOA fell outside the acceptable z-score range ( $\pm 3.29$ ) and were deleted; two cases of TSA were also removed due to exceeding three standard deviations from the mean, leaving 419 cases for further analysis.

To assess normality of the distribution, histograms were created for each variable of interest, and skewness and kurtosis values were examined. The recommendations of Kline (2011) for determining acceptable skewness and kurtosis were applied: Skewness statistics greater than  $|3|$  indicated problematic skew whereas kurtosis statistics greater than  $|10|$  indicated problematic kurtosis. Skewness and kurtosis statistics for all variables were within these limits, suggesting no problematic skew or kurtosis.

The maximum Cook's D (influence statistics) was .048 which was less than the 1.0 cut-off (Field, 2009), therefore was not deemed as cause for concern. The largest Leverage value ( $h = .070$ ) did not exceed the cut-off point of .20, suggesting that the cases fit the model well. Finally, the maximum Mahalanobis' distance ( $MD\chi^2 = 29.389$ ) was larger than the critical chi-square value of 22.46 for  $df = 6$  at a critical alpha value of .001, indicating the presence of multivariate outliers. Closer examination of individual cases revealed that there was one outlier with extreme scores that was removed from the sample, leaving 418 cases in total. Further, residual statistics were examined for extreme cases. Two cases had standardized residuals greater than 3 which called for further investigation. Of these two cases, neither had a Cook's distance greater than 1 nor they had leverage values two or three times greater than average leverage of .02 ( $k + 1/n = 7/419$ ). Finally, for Mahalanobis' distance, neither cases came close to exceeding the criterion of 22.46. Taken together, the evidence suggested that these two cases did not have undue influence on the regression parameters, thus they were retained for further analysis.

Multicollinearity among the variables was assessed via tolerance and VIF statistics. Tolerance values were well above .2 and VIF values were all well below 10, representing evidence of no multicollinearity. Durbin-Watson test of the assumption of independent errors yielded a value that was close enough to the desired value of 2 therefore was not deemed as a cause for concern. To test the assumption of homoscedasticity, a scatterplot for prediction values and residuals for the dependent variable was inspected. The points were evenly dispersed throughout the plot which was indicative of assumption of homoscedasticity had been met. To test the normality of residuals, histogram and normal probability plot were examined. The residuals appeared to be normally distributed whereas the straight line in the normal probability plot represented a normal distribution. Partial plots were run on all pairs of variables to ensure there was a linear relationship between all pairs, in order to meet the assumption of linearity. No violation of assumptions was found. Moving forward, the final sample included a total of 418 cases.

### **Factor Analyses**

I examined the dimensionality of each of the measures through principal axis factoring (PAF). Results indicated that all measures, except for ECR-R and RAM, were considered unidimensional measures, either because (i) there was only one factor extracted (i.e. IES-I and AE), or (ii) the first eigenvalue extracted was at least three times larger than the second eigenvalue extracted (i.e. BLRI-64-E, MOFS, HSCL-21, DAS-DS, Trust). In the latter cases, the scree plot of each respective measure also supported the presence of a higher order factor. In addition, factor pattern coefficients for all items were sizable (i.e.  $>.30$ ), and the scale scores had good to excellent reliability (see Table 2 & Measures). Therefore, the full-scale score for these measures were used for the main analyses.

Table 2.

Structural Characteristics of Instruments ( $N = 418$ )

Measure	# Items	KMO	Bartlett's Test	% Explained	$\alpha$
ECR-R	36	.91	8577.73(630)*	42%	
AAnx	18	-	-	-	.92
AAvoid	18	-	-	-	.92
IES – I subscale	7	.82	627.65(21)*	33%	.72
RAM	5	.66	179.01(10)*	23%	.51
AE	4	.78	636.57(6)*	56%	.83
BLRI-64 – E subscale	16	.93	3021.71(120)*	40%	.90
MOFS	10	.82	1391.07(45)*	35%	.83
HSCL-21	21	.93	5519.86(210)*	44%	.94
DAS – DS subscale	10	.87	1505.15(45)*	39%	.86
Trust	17	.94	4268.49(136)*	47%	.93

*Note.* KMO = Kaiser-Meyer-Olkin;  $\alpha$  = Cronbach's Alpha; ECR-R = The Experience in Close Relationships – Revised scale; AAnx = Attachment Anxiety; AAvoid = Attachment Avoidance; IES – I subscale = Intrusiveness Subscale of the Impact of Event Scale; RAM = The Relationship Attribution Measure; AE = Affective Empathy Scale; BLRI-64 – E subscale = Empathic Understanding Subscale of the Barrett-Lennard Relationship Inventory (RI-Form OS-M-64); MOFS = The Marital Offense-Specific Forgiveness Scale; HSCL-21 = The Hopkins Symptom Checklist – 21; DAS – DS subscale = Dyadic Satisfaction Subscale of The Dyadic Adjustment Scale; Trust = Trust Scale. \* $p < .001$ .

Results were mixed for the ECR-R and the RAM. Although Cronbach's alpha was excellent (.93) for the total score of ECR-R, PAF results did not support unidimensionality. The first PAF with unspecified number of factors yielded a five-factor solution explaining 53.49% of the item variance based on the Kaiser's eigenvalue greater than 1 criterion. However, visual inspection of the scree plot indicated a possible two-factor or five-factor model. Accordingly, a second PAF specifying two-factor solution, consistent with intended factor structure of the ECR-R (Fraley et al., 2000), was conducted. The two-factor solution explained 42.02% of the item variance. This PAF demonstrated that items loaded as expected at .39 or higher on AAnx and at .32 or higher on AAvoid subscales. Moreover, the

moderate correlation between the two factors ( $r = .31$ ), as well as their excellent Cronbach's alphas, provided further evidence for the two-factor model. Finally, results from separate PAF analyses conducted on the two respective subscales supported their unidimensionality. Therefore, the two subscales of the ECR-R, namely, AA<sub>Anx</sub> and AA<sub>Avoid</sub>, were retained for the main analyses. Issues concerning the dimensionality and low internal consistency of the RAM were addressed in Measures section.

### **Missing Data**

Even though missing data were observed in the sample, there were no variables with 5% or more missing values. A missing value analysis was conducted in SPSS to further clarify the pattern of missingness. Percentage of missingness for each variable ranged from a low of 0% to 1.4%. Little's Test was conducted on all scale items; results were not significant,  $\chi^2(11884) = 12075.94, p = .107$ , suggesting that data were missing completely at random (MCAR) and that values are not related to any variables under study (Schlomer, Bauman, & Card, 2010). To address missing data at the level of scale items, I used Expectation Maximization (EM), in which estimates for missing data are determined by an algorithm using an iterative process. Because the EM method has shown to be superior to deletion and nonstochastic imputation such as mean substitution (Roth, 1994), and provides unbiased and efficient parameters (Schlomer et al., 2010, it is an appropriate method for handling MCAR data. Missing values computed via EM imputation were retained for the subsequent analyses.

### **Exploratory Analyses**

A multiple regression analysis was used to test if the following demographic and relationship variables significantly predicted participant's ratings of forgiveness (MOFS

scores) following partner's infidelity: gender, type of infidelity, prior history of infidelity, therapy experience, length of affair, time since disclosure/discovery of affair (TSD), and time since participation in affair (TSA). Due to their categorical nature, gender (female, male), type of infidelity (sexual affair, emotional affair, combined), prior history (one-time offense, repeated offense), and therapy experience (currently/previous in therapy, no therapy) were dummy coded with male, combined sexual and emotional infidelity, repeated offense, and no therapy experience serving as the reference group for each of these variables respectively. Though the overall model was significant; altogether, the predictors accounted for only 4% of the variance in forgiveness,  $R^2 = .04$ ;  $F(8,409) = 2.07$ ,  $p = .038$ . Both one-time offense ( $\beta = .14$ ,  $p = .007$ ) and TSD ( $\beta = .14$ ,  $p = .026$ ) were significant predictors of forgiveness, thus were included in the main analyses as control variables. MOFS scores increased by .51 for those who considered their partner as one-time offender compared to those whose partner was a repeated offender of infidelity. As the number of months since disclosure/discovery of the affair increased by one, the MOFS scores increased by .02. Table 3 shows the results from the multiple regression analysis predicting forgiveness of infidelity.

Table 3.

Multiple Regression Analysis Predicting MOFS<sup>a</sup> Scores ( $N = 418$ )

Variable	<i>B</i>	SE( <i>B</i> )	$\beta$	<i>t</i>
(Constant)	6.51	0.32		20.17***
Female	-0.20	0.23	-0.04	-0.89
Sexual Affair Only	0.40	0.26	0.08	1.53
Emotional Affair Only	-0.36	0.33	-0.06	-1.11
One-Time Offense	0.51	0.19	0.14	2.72**
Currently/Previously in Therapy	0.27	0.20	0.07	1.35
LOA <sup>b</sup> (in months)	0.00	0.00	0.03	0.51
TSA <sup>c</sup> (in months)	-0.01	0.01	-0.12	-1.85
TSD <sup>d</sup> (in months)	0.02	0.01	0.14	2.23*



Note. Full Model  $R^2 = .04^*$

<sup>a</sup>The Marital Offense-Specific Forgiveness Scale. <sup>b</sup>Length of The Affair. <sup>c</sup>Time Since Participation in Affair. <sup>d</sup>Time Since Discovery/Disclosure of The Affair.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Note that forgiveness (as measured by MOFS) was hypothesized as the antecedent (mediator) to other recovery outcome variables in the model (i.e. psychological distress, relationship satisfaction, and relational trust). To further explore how far the influence of the covariates (i.e. one-time offense and TSD) propagate beyond MOFS, three separate hierarchical multiple regressions were conducted subsequently on the three distal recovery outcomes: HSCL-21, DAS-DS, and Trust. For each regression model, demographic and relational variables that had no significant effects on MOFS (forgiveness) were entered into the first block, followed by MOFS scores in the second block, and finally the two covariates in the third block to determine if they accounted for additional variance in the dependent variables. Results were summarized in Table 4 to 6.

Table 4.

Hierarchical Regression Analysis Predicting HSCL-21<sup>a</sup> Scores ( $N = 418$ )

Variable	Block 1		Block 2		Block 3	
	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$
(Constant)	2.02 (0.10)***		2.60 (0.16)***		2.68 (0.16)***	
TSA <sup>b</sup> (in month)	<-0.01 (0.00)*	-0.10	<-0.01 (0.00)*	-0.11	<-0.01 (0.00)	-0.02
LOA <sup>c</sup> (in month)	<0.01 (0.00)	0.08	<0.01 (0.00)	0.08	<0.01 (0.00)	0.07
Female	0.20 (0.08)*	0.12	0.18 (0.08)*	0.11	0.18 (0.08)*	0.11
Sexual Affair Only	-0.12 (0.09)	-0.06	-0.09 (0.09)	-0.05	-0.13 (0.09)	-0.07
Emotional Affair Only	-0.08 (0.12)	-0.04	-0.11 (0.12)	-0.05	-0.12 (0.12)	-0.05
Currently/Previously in Therapy	-0.02 (0.07)	-0.02	<-0.01 (0.07)	<-0.01	-0.01 (0.07)	-0.01
MOFS <sup>d</sup>			-0.08 (0.02)***	-0.23	-0.08 (0.02)***	-0.21

One-time Offense TSD <sup>e</sup> (in month)			-0.07 (0.07)	-0.05
			-0.01 (0.00)*	-0.12
$\Delta R^2$	0.04*	0.05***	0.01	

Note. Total  $R^2 = 0.10^{***}$

(table continues)

<sup>a</sup>Hopkins Symptom Checklist-21. <sup>b</sup>Time Since Participation in Affair. <sup>c</sup>Length of The Affair. <sup>d</sup>The Marital Offense-Specific Forgiveness Scale. <sup>e</sup>Time Since Discovery/Disclosure of The Affair.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**HSCL-21 scores as the dependent variable.** Table 4 shows the results from the hierarchical regression analysis predicting HSCL-21 scores, an indicator of psychological distress. The regression model with variables non-predictive of MOFS (Block 1) was significant,  $F(6, 407) = 2.47, p = .023$ ; gender (female) evidenced significant simple effect. However, because gender was not the main variable of interest and was only found to be significant in predicting one outcome variable with small effect size, it was not included as a covariate in the final path model, though it could be a variable of interest for further exploration in future study. The regression model was significant with MOFS scores added in Block 2,  $F_{change}(1, 406) = 22.58, p < .001$ ; the  $R^2$  change statistic was .05. As forgiveness scores increased, psychological distress scores decreased. The regression model with both covariates added (Block 3) was not significant,  $F_{change}(2, 404) = 2.32, p = .10$ ; the  $R^2$  change statistic was .01. Closer examination of main effects of each covariate revealed that TSD evidenced a significant unique effect on HSCL-21 scores even after accounting for MOFS scores ( $\beta = -0.12, p = .046$ ) whereas no significant main effect was found for one-time offense. These results suggested TSD, but not one-time offense, was influencing participant responses to items related to HSCL-21; therefore, the effect of TSD on HSCL-21 was controlled in the path analysis (i.e., a direct path was added from TSD to HSCL-21).

**DAS-DS scores as the dependent variable.** Table 5 displays the results from the hierarchical regression analysis predicting dyadic satisfaction, as measured by DAS-DS scores. The regression model with variables non-predictive of MOFS (Block 1) was significant,  $F(6, 407) = 2.81, p = .011$ ; affair length and sexual affair only (as compared to combined sexual and emotional affair) evidenced significant simple effects. The regression model was significant with MOFS scores entered into the second block,  $F_{change}(1, 406) = 175.82, p < .001$ ; the  $R^2$  change statistic was .29. As MOFS scores increased, the DAS-DS scores increased. The regression model with both covariates added (Block 3) was significant,  $F_{change}(2, 404) = 5.19, p = .006$ ; the  $R^2$  change statistic was .02, a small effect size. TSD had no significant effect on DAS-DS scores after accounting for MOFS scores but one-time offense did ( $\beta = .13, p = .002$ ). These results suggested one-time offense accounted for additional variance in the DAS-DS scores beyond MOFS scores. Accordingly, only one-time offense remained a control variable for DAS-DS in the path model (i.e., a direct path was added from one-time offense to DAS-DS). Note that length of affair and sexual affair only remained to evidence significant, but small, unique effects on DAS-DS in the full regression model. However, I ultimately decided to not include these variables as covariates in the final path model because they did not significantly predict forgiveness which was hypothesized to be the mediator to other outcome variables.

Table 5.

Hierarchical Regression Analysis Predicting DAS-DS<sup>a</sup> Scores ( $N = 418$ )

Variable	Block 1		Block 2		Block 3	
	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$
(Constant)	30.41 (1.15)***		14.24 (1.55)***		13.41 (1.59)***	
TSA <sup>b</sup> (in month)	0.02 (0.02)	0.04	0.02 (0.02)	0.05	0.03 (0.02)	0.06

(table continues)

Variable	Block 1		Block 2		Block 3	
	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$
LOA <sup>c</sup> (in month)	-0.03 (0.02)*	-0.11	-0.03 (0.01)**	-0.11	-0.03 (0.01)*	-0.09
Female	0.09 (0.95)	0.01	0.61 (0.79)	0.03	0.79 (0.79)	0.04
Sexual Affair Only	3.34 (1.09)**	0.15	2.63 (0.91)**	0.12	2.81 (0.91)**	0.13
Emotional Affair Only	-1.10 (1.37)	-0.04	-0.27 (1.14)	-0.01	-0.31 (1.13)	-0.01
Currently/Previously in Therapy	0.07 (0.83)	<0.01	-0.49 (0.70)	-0.03	-0.41 (0.69)	-0.02
MOFS <sup>d</sup>			2.29 (0.17)***	0.54	2.23 (0.17)***	0.53
One-time Offense TSD <sup>e</sup> (in month)					2.03 (0.66)**	0.13
					-0.02 (0.03)	-0.04
$\Delta R^2$	0.04*		0.29***		0.02**	

Note. Total  $R^2 = 0.35$ \*\*\*

<sup>a</sup>Dyadic Satisfaction Subscale of Dyadic Adjustment Scale. <sup>b</sup>Time Since Participation in Affair. <sup>c</sup>Length of The Affair. <sup>d</sup>The Marital Offense-Specific Forgiveness Scale. <sup>e</sup>Time Since Discovery/ Disclosure of The Affair.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Trust scores as the dependent variable.** Table 6 displays the results from the hierarchical regression analysis predicting relational trust, as measured by Trust scale scores. The regression model with variables non-predictive of MOFS (Block 1) was significant,  $F(6, 407) = 2.91, p = .009$ ; sexual affair only (as compared to combined sexual and emotional affair) evidenced a small unique effect. The regression model was significant with MOFS scores entered into Block 2,  $F_{change}(1, 406) = 86.25, p < .001$ ; the  $R^2$  change statistic was .17. As MOFS scores increased, the Trust scores increased. The regression model with both covariates added (Block 3) was significant,  $F_{change}(2, 404) = 5.01, p = .007$ ; the  $R^2$  change statistic was .02, a small effect size. TSD had no significant effect on Trust scores after accounting for MOFS scores but one-time offense did ( $\beta = .14, p = .002$ ). These results suggested one-time offense accounted for additional variance in the Trust scores beyond

MOFS scores; therefore, the effect of one-time offense on Trust scores was controlled in the path analysis (i.e. a direct path was added from one-time offense to Trust). Note that sexual affair also evidenced significant simple effect on Trust scores in the full regression model. However, it was not included as a covariate in the final path model for reason stated above (i.e. it did not significantly predict forgiveness), though could be a variable of interest in future studies.

Table 6.

Hierarchical Regression Analysis Predicting Trust<sup>a</sup> Scores (*N* = 418)

Variable	Block 1		Block 2		Block 3	
	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$	<i>B</i> (SE)	$\beta$
(Constant)	-7.70 (3.08)*		-40.85 (4.54)***		-44.21 (4.65)***	
TSA <sup>b</sup> (in month)	0.09 (0.06)	0.08	0.10 (0.05)	0.08	0.05 (0.07)	0.05
LOA <sup>c</sup> (in month)	-0.06 (0.04)	-0.08	-0.06 (0.04)	-0.08	-0.04 (0.04)	-0.05
Female	2.45 (2.55)	0.05	3.51 (2.32)	0.07	3.94 (2.31)	0.08
Sexual Affair Only	8.18 (2.92)**	0.14	6.73 (2.66)*	0.11	7.75 (2.68)**	0.13
Emotional Affair Only	-5.24 (3.67)	-0.07	-3.53 (3.35)	-0.05	-3.61 (3.31)	-0.05
Currently/Previously in Therapy	1.86 (2.23)	0.04	0.71 (2.04)	0.02	1.04 (2.02)	0.02
MOFS <sup>d</sup>			4.68 (0.50)***	0.41	4.46 (0.51)***	0.39
One-time Offense TSD <sup>e</sup> (in month)					6.10 (1.94)**	0.14
					0.06 (0.10)	0.04
$\Delta R^2$	0.04**		0.17***		0.02**	

Note. Total  $R^2 = 0.23$ \*\*\*

<sup>a</sup>Trust Scale. <sup>b</sup>Time Since Participation in Affair. <sup>c</sup>Length of The Affair. <sup>d</sup>The Marital Offense-Specific Forgiveness Scale. <sup>e</sup>Time Since Discovery/ Disclosure of The Affair.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 7 contains descriptive statistics and correlations for the 12 observed variables in the path model.

Table 7.

Descriptive Statistics and Intercorrelations of the Variables in the Model ( $N = 418$ )

	1	2	3	4	5	6	7	8	9	10	11	12
1. One-time Offense	-	-.01	-.07	.01	.12*	-.11*	-.24***	<-.01	.12*	-.10	.19***	.18***
2. TSD (in month)		-	-.08	.07	<.01	-.04	.02	-.06	.06	-.13**	.02	.07
3. AAnx			-	.39***	-.36***	.15**	.14**	-.01	-.22***	.51***	-.34***	-.34***
4. AAvoid				-	-.34***	.05	.12*	-.29***	-.32***	.17**	-.37***	-.38***
5. BLRI-E					-	-.08	-.30***	.18***	.31***	-.29***	.63***	.75***
6. IES-I						-	.08	-.05	-.16**	.30***	-.06	-.04
7. RAM							-	-.22***	-.30***	.20***	-.39***	-.39***
8. AE								-	.48***	.02	.34***	.23***
9. MOFS									-	-.23***	.54***	.41***
10. HSCL-21										-	-.25***	-.29***
11. DAS-DS											-	.75***
12. Trust												-
<i>M</i>	.59	20.30	3.67	3.34	-7.94	31.96	4.65	10.06	7.05	2.09	30.72	-2.93
<i>SD</i>	.49	12.61	1.23	1.08	18.47	4.18	.76	4.83	1.85	.67	7.81	20.98
Minimum	0.00	6.00	1.00	1.00	-47.00	16.00	2.00	0.00	2.33	1.00	5.00	-51.00
Maximum	1.00	60.00	7.00	6.22	40.00	36.05	6.00	20.00	12.00	3.90	48.00	50.00

*Note.* TSD = Time Since Discovery/Disclosure of the Affair. AAnx = Attachment Anxiety. AAvoid = Attachment Avoidance. BLRI-E = Empathic Understanding Subscale of the Barrett-Lennard Relationship Inventory. IES-I = Intrusiveness Subscale of the Impact of Event Scale. RAM = Relationship Attribution Measure. AE = Affective Empathy Scale. MOFS = Marital Offense -Specific Forgiveness Scale. HSCL-21 = Hopkins Symptom Checklist-21. DAS-DS = Dyadic Satisfaction Subscale of Dyadic Adjustment Scale. Trust = Trust Scale.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

### **Test for First-Stage Moderated Mediation Using Path Modeling**

The main purpose of the present study was to examine the links among the two attachment dimensions (i.e. AAnx and AAvoid), social-cognitive variables (i.e. rumination, negative attribution, empathy), perceived partner empathy, and various personal (i.e. forgiveness and psychological distress) and relational (i.e. relationship satisfaction and relational trust) recovery outcomes. I used path analysis to test the effects of the ECR-R subscales (independent variable) on HSCL-21, DAS-DS, and Trust (dependent variable, respectively) by pathways through IES-I, RAM, and/or AE (Mediator 1) and MOFS (DV as well as Mediator 2). I also anticipated significant interaction effects between perceived partner empathy (BLRI-C; also Moderator) and attachment variables (i.e. AAnx and AAvoid; IV) on IES-I, RAM, and AE (Mediator 1), respectively, and accounted for them in the same model. Note that interaction terms were mean-centered to improve interpretability of simple slopes (Kline, 2010). Additionally, prior history of infidelity (i.e. One-time Offense) and Time Since Disclosure/Discovery of the Affair (TSD) were included as covariates (exogenous variables) in the model. Specifically, correlations between the control variables and all other independent variables in the model were added. Additionally, direct paths were added from One-time Offense to MOFS, DAS-DS, and Trust respectively in order to control for its effect on these outcome variables. On the other hand, two direct paths were added from TSD to MOFS and to HSCL-21, respectively, in order to control the effect of TSD on these outcome variables. Figure 2 depicts the initial theoretical model with covariates and interaction terms added.

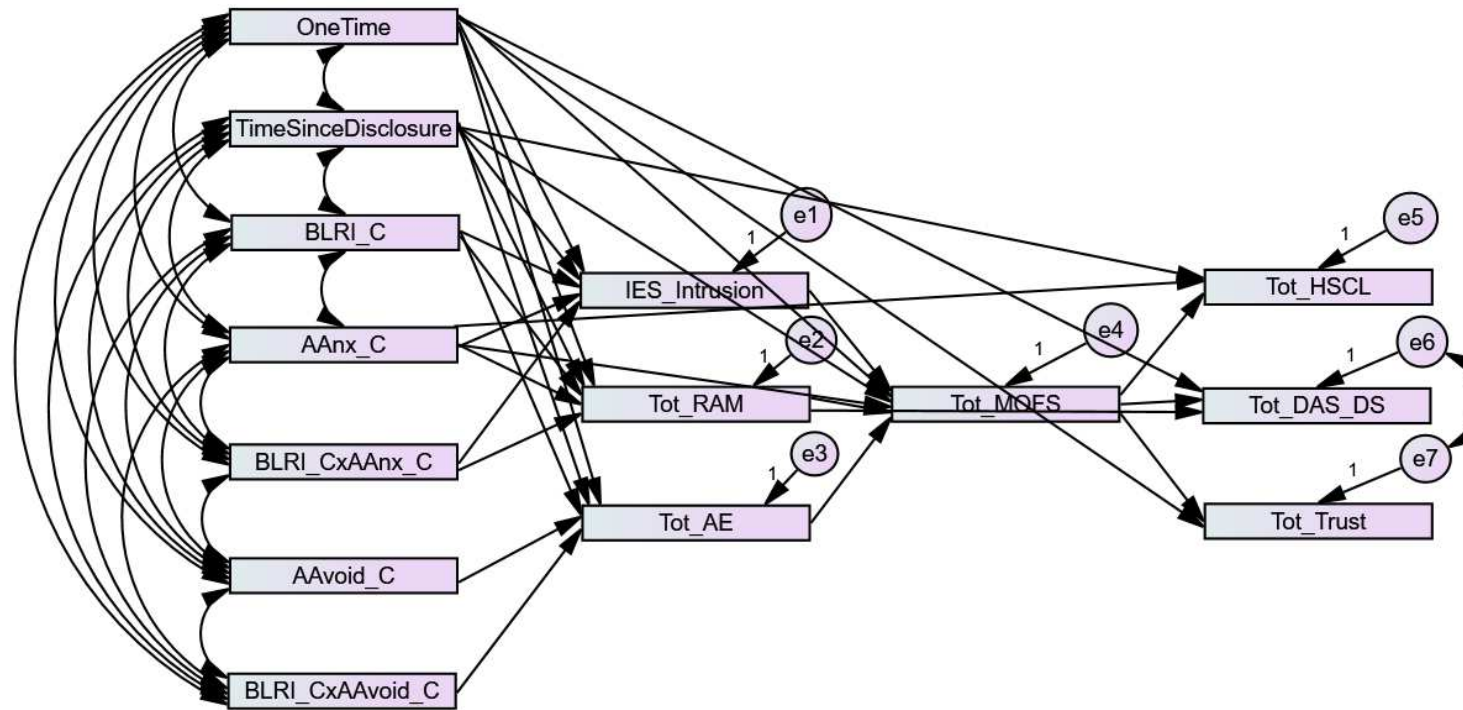
## Model Estimation

I used maximum likelihood estimation (MLE) in Amos v25 to estimate the model, which was theoretically identified (i.e. a recursive path model with  $df \geq 0$ ). To assess global model fit, I used several fit indices recommended by Kline (2011): (a) nonsignificant  $\chi^2$ , (b) the comparative fit index (CFI;  $\geq .95 = \text{good}$ ); (c) standardized root mean square residual (SRMR;  $\leq .05 = \text{good}$ ); and (d) root mean squared error of approximation (RMSEA;  $\geq .10 = \text{unacceptable}$ ;  $\leq .08 = \text{acceptable}$ ;  $\leq .05 = \text{good}$ ). Fit statistics for the hypothesized model (Model 1) were as follows:  $\chi^2(41) = 598.118$ ,  $p < .001$ ; CFI = .658; SRMR = .125; RMSEA = .181, 90% CI = [.168, .193], suggesting a poor-fitting model. In addition, inspection of local fit revealed multiple standardized covariance residuals were more than  $|2.00|$ , which indicated local misfit. Most notably, the standardized covariances residuals of 10.52, 13.42, and 10.34 that corresponded to the relationships between the two interaction terms (BLRI-C\*AA<sub>Anx</sub> and BLRI-C\*AA<sub>Avoid</sub>), BLRI-C and Trust, as well as BLRI-C and DAS-DS, indicated the need to free up those three paths in order to achieve a good fit.

Therefore, I respecified the model (Model 2) by correlating the two interaction terms and adding two direct paths from BLRI-C to Trust and to DAS-DS, respectively, resulting in the following fit indices:  $\chi^2(38) = 154.637$ ,  $p < .001$ ; CFI = .928; SRMR = .051; RMSEA = .086, 90% CI = [.072, .100]. All indices, except for  $\chi^2$ , indicated borderline adequate fit, and the respecified model fit significantly better than the baseline model:  $\chi^2_{\text{diff}}(3) = 443.481$ ,  $p < .001$ . AIC, a measure generally used as a comparison between competing models (with lower scores indicating better fit), was 288.637 for the current model as compared to 726.118 for the baseline model. Despite a better global model fit, the local fit of Model 2 continued



Figure 2.



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Figure 2. Hypothesized path model.

OneTime = One-time Offense. TSD = Time Since Disclosure/Discovery of Affair. BLRI\_C = Mean-Centered Empathic Understanding Subscale Score of the Barrett-Lennard Relationship Inventory. AAnx\_C = Mean-Centered Attachment Anxiety. AAvoid\_C = Mean-Centered Attachment Avoid. IES-I = Intrusiveness Subscale of the Impact of Event Scale. RAM = Relationship Attribution Measure. AE = Affective Empathy Scale. MOFS = Marital Offense -Specific Forgiveness Scale. HSCL-21 = Hopkins Symptom Checklist-21. DAS-DS = Dyadic Satisfaction Subscale of Dyadic Adjustment Scale. Trust = Trust Scale.

to be undesirable. In particular, the standardized residual covariances between AE and RAM (-3.54), and IES-I and HSCL-21 (4.21) were still way above |2.00|.

Thus, I added a covariance between the disturbances of AE and RAM and added one direct path from IES-I to HSCL-21. The resulting model (Model 3) had statistically significant improved global model fit compared to Model 2:  $\chi^2_{\text{diff}}(2) = 41.756, p < .001$ . Fit statistics for Model 3 were reasonable:  $\chi^2(36) = 112.881, p < .001$ ; CFI = .953; SRMR = .041; RMSEA = .072, 90% CI = [.057, .087]; and AIC = 250.881. Local fit of the current model also improved slightly in that none of the standardized residual covariances were above |3.00| though several residual values remained above |2.00|. Of note, the standardized residual covariances between AAVoid and MOFS, AAVoid and Trust, and AAVoid and DAS-DS were -2.20, -2.28, and -2.42, respectively. Adding pathways between AAVoid and these three DVs appeared to be indicated.

As a result, I added three direct paths (from AAVoid to MOFS, Trust, and DAS-DS) and refit the model (Model 4). The fit indices obtained through model building were  $\chi^2(33) = 90.565, p < .001$ ; CFI = .965; SRMR = .035; RMSEA = .065, 90% CI = [.049, .081]; and AIC = 234.565. All indices indicated good fit, and the respecified model fit significantly better than the previous model (Model 3):  $\chi^2_{\text{diff}}(3) = 22.316, p < .05$ . Although the upper bound for RMSEA was slightly beyond acceptable, it was not in the range of unacceptable, and the probability that RMSEA is less than or equal to .065 in the population was 6.1%. Local fit of this model was acceptable; all standardized residual covariances were less than or approached |2.00|. All things considered, Model 4 provided an overall good fit to the data.

## Alternate Model

Based on the model fit indices and regression weights that were not significant, it appeared that some pathways could be trimmed from the model. Thus, an alternate model was proposed wherein five non-significant pathways (i.e. from RAM to DAS-DS; from TSD to IES-I, RAM, and AE, respectively; and from One-Time Offense to AE) were trimmed. Fit statistics for the trimmed model (Model 5) were  $\chi^2(38) = 95.214, p < .001$ ; CFI = .965; SRMR = .036; RMSEA = .060, 90% CI = [.045, .075]; and AIC = 229.214. In comparing the trimmed model to Model 4, I found no statistically significant difference between the two ( $\chi^2_{diff}(5) = 4.649, p > .05$ ). Moreover, inspection of local fit for Model 5 revealed that the biggest standardized residual covariance was 2.483, which is larger than that of the previous model and was considered as evidence of a poorer local fit. Thus, due to theoretical considerations and the lack of significant improvement of global and local fit with the trimmed model, Model 4 (see Figure 3) was retained as the final model. Another argument in favor of rejecting Model 5 is that doing so limits capitalizing on chance. Model fit statistics for the hypothesized model (Model 1) and for subsequent models are summarized in Table 8.

Table 8.

Model Fit Statistics for Comparative Path Models ( $N = 418$ )

	$\chi^2_M$	(df)	CFI	RMSEA	90% CI	SRMR	AIC	$\Delta\chi^2$
Model 1	598.118‡	41	.658	.181	(.168, .193)	.125	726.118	-
Model 2	154.637‡	38	.928	.086	(.072, .100)	.051	288.637	443.481‡
Model 3	112.881‡	36	.953	.072	(.057, .087)	.041	250.881	41.756‡
Model 4	90.565‡	33	.965	.065	(.049, .081)	.034	234.565	22.316*
Model 5	95.214‡	38	.965	.060	(.045, .075)	.036	229.214	4.649

*Note.* CFI = Comparative Fit Index, RMSEA = Root Mean Squared Error of Approximation, SRMR = Standardized Root Mean Square Residual, AIC = Akaike Information Criterion.

\* $p < .05$ . ‡ $p < .001$

Model 4 was retained as the final model.

Table 9 summarizes standardized and unstandardized path coefficients and standard errors. Not all standardized path coefficients for direct links between variables were significant; the most notable non-significant paths including paths between both interaction terms and their respective socio-cognitive variables (i.e.  $BLRI\_C * AAnx\_C \rightarrow IES-I$ ,  $BLRI\_C * AAnx\_C \rightarrow RAM$ , and  $BLRI\_C * AAvoid\_C \rightarrow AE$ ),  $AAnx\_C$  and  $RAM$ ,  $BLRI\_C$  and two out of three socio-cognitive variables (i.e.  $IES-I$  and  $AE$ ), and  $RAM$  and  $DAS-DS$ . With the exception of One-time Offense on  $RAM$  and  $IES-I$ , the covariates were found to have no significant effects on the socio-cognitive variables (Mediator 1), but evidenced direct effects on the outcome variables, thus lending support for their inclusion in the final model. Effect sizes were variable for significant direct path coefficients – ranging from small (e.g.  $\beta = -0.09$  for  $IES-I \rightarrow MOFS$ ) to medium (e.g.  $\beta = 0.66$  for  $BLRI\_C \rightarrow Trust$ ). In addition, all but one indirect path (i.e.  $One-time\ Offense \leftrightarrow BLRI\_C$ ) between the two covariates and other exogenous variables in the model were not significant at the .05 level. Most non-direct paths involving interaction terms were non-significant as well. For the significant indirect paths, the correlation values ranged from small (e.g.  $r = .12$  for  $One-time\ Offense \leftrightarrow BLRI\_C$ ) to medium (e.g.  $r = .43$  for the disturbances of  $DAS-DS$  and  $Trust$ ). Variance estimates and squared multiple correlations ( $R^2$ ) for each variable are also summarized in Table 9, and all were statistically significant. The predictors in the model explained a very large amount of variance in all of the outcome variables:  $MOFS$  (33.7%),  $HSCL-21$  (32.7%),  $DAS-DS$  (54.3%), and  $Trust$  (60.8%). A small-to-medium amount of variance was explained in  $IES-I$  (3.5%),  $RAM$  (13.7%), and  $AE$  (9.2%).

Table 9.

Parameter Estimates of the Final Path Model ( $N = 418$ )

Direct path coefficients			Indirect path coefficients		
Path	Unstand ( <i>SE</i> )	Stand.	Variable	Unstand ( <i>SE</i> )	<i>r</i>
IES-I ← BLRI_C	-0.01 (0.01)	-0.03	OneTime ↔ TSD	-0.06 (0.30)	-.01
RAM ← BLRI_C	-0.01 (0.00)‡	-0.26	OneTime ↔ BLRI_C	1.05 (0.45)*	.12
IES-I ← AAnx_C	0.46 (0.18)†	0.13	OneTime ↔ AAnx_C	-0.04 (0.03)	-.07
RAM ← AAnx_C	0.04 (0.03)	0.06	OneTime ↔ BLRI_C*AAnx_C	-0.35 (0.61)	-.03
IES-I ← BLRI_C*AAnx_C	-0.00 (0.01)	-0.00	OneTime ↔ AAvoid_C	0.00 (0.03)	.01
RAM ← BLRI_C*AAnx_C	-0.00 (0.00)	-0.04	OneTime ↔ BLRI_C*AAvoid_C	0.56 (0.54)	.05
(table continues)					
Direct path coefficients			Indirect path coefficients		
Path	Unstand ( <i>SE</i> )	Stand.	Variable	Unstand ( <i>SE</i> )	<i>r</i>
AE ← AAvoid_C	-1.14 (0.22) ‡	-0.26	TSD ↔ BLRI_C	0.29 (11.38)	.00
AE ← BLRI_C*AAvoid_C	-0.01 (0.01)	-0.05	TSD ↔ AAnx_C	-1.22 (0.76)	-.08
AE ← BLRI_C	0.02 (0.01)	0.08	TSD ↔ BLRI_C*AAnx_C	-3.82 (15.60)	-.01
AE ← TSD	-0.02 (0.02)	-0.04	TSD ↔ AAvoid_C	0.98 (0.67)	.07
AE ← OneTime	-0.06 (0.46)	-0.01	TSD ↔ BLRI_C*AAvoid_C	-1.93 (13.75)	-.01
RAM ← TSD	0.00 (0.00)	0.03	BLRI_C ↔ AAnx_C	-8.09 (1.17)‡	-.36
RAM ← OneTime	-0.32 (0.07) ‡	-0.20	BLRI_C ↔ BLRI_C*AAnx_C	-66.79 (23.08)†	-.14
IES-I ← TSD	-0.01 (0.02)	-0.04	BLRI_C ↔ AAvoid_C	-6.78 (1.03)‡	-.34
IES-I ← OneTime	-0.84 (0.41)*	-0.10	BLRI_C ↔ BLRI_C*AAvoid_C	-96.31 (20.69)‡	-.23
MOFS ← OneTime	0.23 (0.16)	0.06	AAnx_C ↔ BLRI_C*AAnx_C	-0.78 (1.52)	-.03
MOFS ← TSD	0.01 (0.01)*	0.09	AAnx_C ↔ AAvoid_C	0.51 (0.07)‡	.39
MOFS ← AAnx_C	-0.16 (0.07)*	-0.11	AAnx_C ↔ BLRI_C*AAvoid_C	2.57 (1.34)	.09
MOFS ← IES-I	-0.04 (0.02)*	-0.09	BLRI_C*AAnx_C ↔ AAvoid_C	2.57 (1.35)	.09
MOFS ← RAM	-0.38 (0.10) ‡	-0.16	AAvoid_C ↔ BLRI_C*AAvoid_C	0.27 (1.18)	.01
MOFS ← AE	0.15 (0.02) ‡	0.40	BLRI_C*AAnx_C ↔ BLRI_C*AAvoid_C	290.57 (31.07)‡	.52
MOFS ← AAvoid_C	-0.24 (0.08) †	-0.14	e2 ↔ e3	-0.63 (0.16)‡	-.19
HSCL-21 ← AAnx_C	0.25 (0.02) ‡	0.45	e6 ↔ e7	29.19 (3.59)‡	.43



Figure 3

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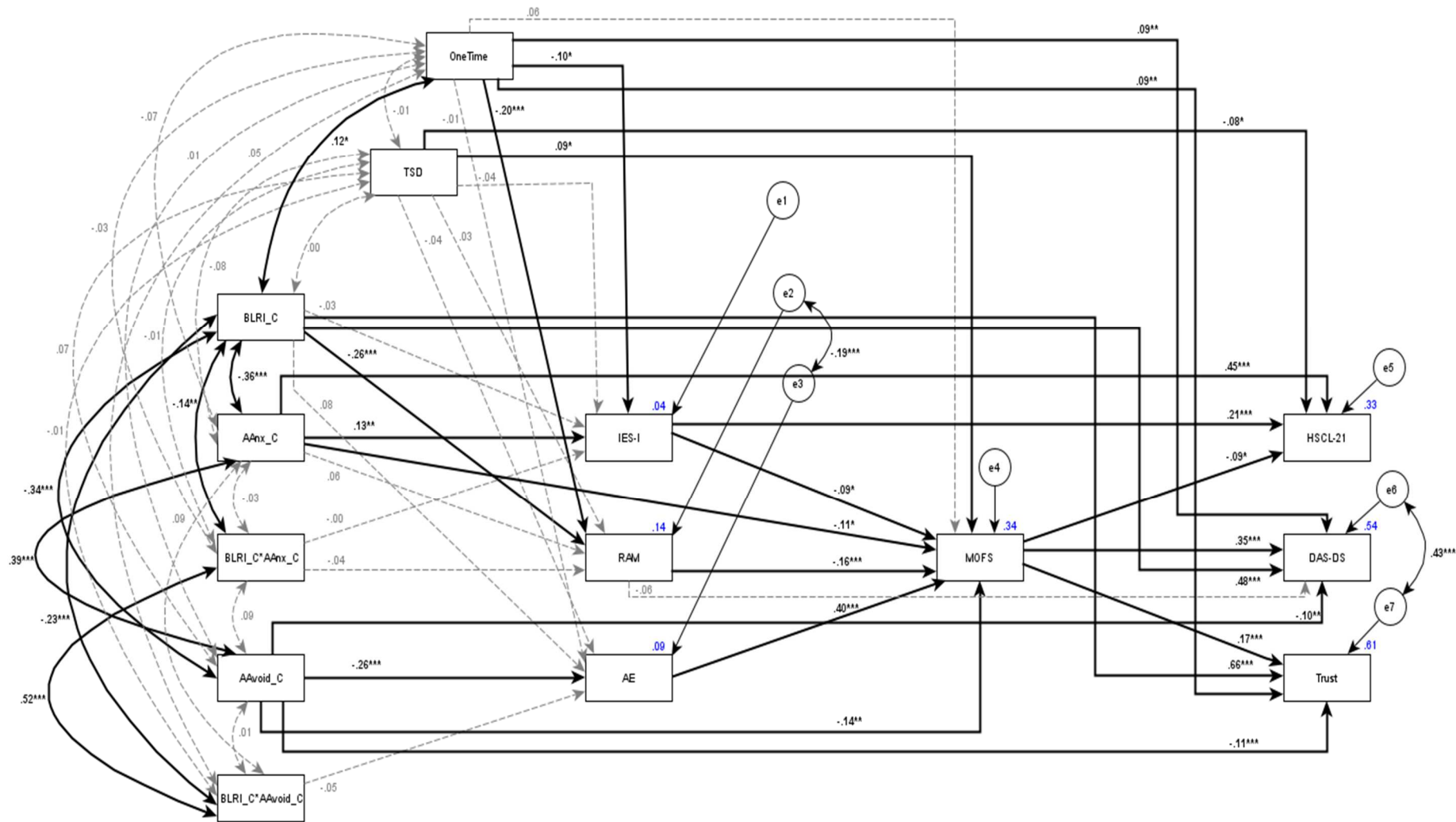


Figure 3. Final path model. R<sup>2</sup> values are placed on the outside upper right hand corner of each endogenous variable. Standardized path coefficients are displayed. Non-significant paths and non-significant correlations are represented by dotted lines. OneTime = One-time Offense. TSD = Time Since Disclosure/Discovery of Affair. BLRI\_C = Mean-Centered Empathic Understanding Subscale Score of the Barrett-Lennard Relationship

Inventory. AAnx\_C = Mean-Centered Attachment Anxiety. AAvoid\_C = Mean-Centered Attachment Avoid. IES-I = Intrusiveness Subscale of the Impact of Event Scale. RAM = Relationship Attribution Measure. AE = Affective Empathy Scale. MOFS = Marital Offense -Specific Forgiveness Scale. HSCL-21 = Hopkins Symptom Checklist-21. DAS-DS = Dyadic Satisfaction Subscale of Dyadic Adjustment Scale. Trust = Trust Scale.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$



## Hypotheses 1 and 2: Second-Order Multiple Mediation Model

A multiple mediation model was examined in the present study, which includes both single (e.g. attachment anxiety → rumination → forgiveness) and double mediated effects (e.g. attachment avoidant → empathy → forgiveness → psychological distress). Mediation effects were tested by examining the direct paths. If each of the individual direct paths that comprised the mediation were significant, it can be safe to conclude that the mediation effect was also significant (Kline, 2011). Significant direct effects are shown in Table 9; whereas Table 10 reports the tests of total indirect effects using bootstrapping procedure.

Table 10.

Bootstrap Analysis of Total Indirect Effects in Model ( $N = 418$ )

Variable	Bootstrap Estimate		95% Bias-Corrected CI		<i>p</i>
	$\beta$	<i>SE</i>	Lower Bound	Upper Bound	
<i>Outcome Variable: MOFS</i>					
<b>BLRI_C</b>	<b>.075</b>	<b>.028</b>	<b>.020</b>	<b>.130</b>	<b>.007</b>
<b>AAnx_C</b>	<b>-.021</b>	<b>.012</b>	<b>-.050</b>	<b>-.002</b>	<b>.028</b>
BLRI_C*AAnx_C	.006	.009	-.012	.025	.484
<b>AAvoid_C</b>	<b>-.101</b>	<b>.023</b>	<b>-.149</b>	<b>-.060</b>	<b>&lt; .001</b>
BLRI_C*AAvoid_C	-.018	.023	-.061	.028	.429
Covariate: TSD	-.017	.024	-.063	.032	.510
Covariate: OneTime	.039	.024	-.007	.088	.100
<i>Outcome Variable: HSCL-21</i>					
<b>IES-I</b>	<b>.008</b>	<b>.005</b>	<b>.001</b>	<b>.023</b>	<b>.029</b>
<b>RAM</b>	<b>.014</b>	<b>.008</b>	<b>.002</b>	<b>.034</b>	<b>.025</b>
<b>AE</b>	<b>-.035</b>	<b>.017</b>	<b>-.070</b>	<b>-.005</b>	<b>.027</b>
BLRI_C	-.012	.013	-.040	.011	.325
<b>AAnx_C</b>	<b>.040</b>	<b>.014</b>	<b>.016</b>	<b>.069</b>	<b>.002</b>
BLRI_C*AAnx_C	-.001	.012	-.026	.022	.901
<b>AAvoid_C</b>	<b>.021</b>	<b>.011</b>	<b>.003</b>	<b>.047</b>	<b>.025</b>
BLRI_C*AAvoid_C	.002	.002	-.002	.008	.268
Covariate: TSD	-.014	.013	-.039	.011	.255
<b>Covariate: OneTime</b>	<b>-.030</b>	<b>.012</b>	<b>-.057</b>	<b>-.009</b>	<b>.006</b>

<i>Outcome Variable: DAS-DS</i>					
<b>IES-I</b>	<b>-.032</b>	<b>.014</b>	<b>-.061</b>	<b>-.005</b>	<b>.021</b>
<b>RAM</b>	<b>-.054</b>	<b>.016</b>	<b>-.088</b>	<b>-.025</b>	<b>&lt; .001</b>
<b>AE</b>	<b>.137</b>	<b>.025</b>	<b>.091</b>	<b>.187</b>	<b>&lt; .001</b>
<b>BLRI_C</b>	<b>.042</b>	<b>.015</b>	<b>.014</b>	<b>.071</b>	<b>.003</b>
<b>AAnx_C</b>	<b>-.048</b>	<b>.017</b>	<b>-.084</b>	<b>-.017</b>	<b>.003</b>
BLRI_C*AAnx_C	.004	.006	-.005	.018	.368
<b>AAvoid_C</b>	<b>-.084</b>	<b>.022</b>	<b>-.131</b>	<b>-.043</b>	<b>&lt; .001</b>
BLRI_C*AAvoid_C	-.006	.008	-.022	.010	.420
Covariate: TSD	.023	.016	-.008	.057	.142
<b>Covariate: OneTime</b>	<b>.047</b>	<b>.018</b>	<b>.013</b>	<b>.085</b>	<b>.008</b>

<i>Outcome Variable: Trust</i>					
<b>IES-I</b>	<b>-.016</b>	<b>.008</b>	<b>-.033</b>	<b>-.003</b>	<b>.015</b>
<b>RAM</b>	<b>-.027</b>	<b>.010</b>	<b>-.050</b>	<b>-.010</b>	<b>&lt; .001</b>
<b>AE</b>	<b>.067</b>	<b>.017</b>	<b>.036</b>	<b>.105</b>	<b>&lt; .001</b>
<b>BLRI_C</b>	<b>.013</b>	<b>.006</b>	<b>.004</b>	<b>.026</b>	<b>.004</b>
<b>AAnx_C</b>	<b>-.022</b>	<b>.009</b>	<b>-.044</b>	<b>-.007</b>	<b>.002</b>
BLRI_C*AAnx_C	.001	.002	-.002	.005	.422
<b>AAvoid_C</b>	<b>-.041</b>	<b>.014</b>	<b>-.073</b>	<b>-.018</b>	<b>&lt; .001</b>
BLRI_C*AAvoid_C	-.003	.004	-.011	.004	.368
Covariate: TSD	.012	.008	-.001	.032	.078
<b>Covariate: OneTime</b>	<b>.017</b>	<b>.009</b>	<b>.003</b>	<b>.037</b>	<b>.017</b>

*Note.* Significant effects are in bold typeface for emphasis and were determined by a 95% bias-corrected bootstrapped confidence interval (based on 5,000 bootstrapped samples) that does not contain zero.

OneTime = One-time Offense. TSD = Time Since Disclosure/Discovery of Affair. BLRI\_C = Mean-Centered Empathic Understanding Subscale Score of the Barrett-Lennard Relationship Inventory. AAnx\_C = Mean-Centered Attachment Anxiety. AAvoid\_C = Mean-Centered Attachment Avoid. IES-I = Intrusiveness Subscale of the Impact of Event Scale. RAM = Relationship Attribution Measure. AE = Affective Empathy Scale. MOFS = Marital Offense -Specific Forgiveness Scale. HSCL-21 = Hopkins Symptom Checklist-21. DAS-DS = Dyadic Satisfaction Subscale of Dyadic Adjustment Scale. Trust = Trust Scale.

Recall that Hypothesis 1 predicted that:

- (a) The effect of AAnx (independent variable) on MOFS (proximal dependent variable) would be partially mediated by IES-I and RAM, respectively.
- (b) For each distal recovery outcomes, there would be three-path mediating effect through socio-cognitive variable (i.e. IES-I, RAM),  $M_1$ , and MOFS ( $M_2$ ).

Specifically, the effect of AAnx on HSCL-21 (distal  $DV_1$ ) would be partially mediated by IES-I and RAM,  $M_1$ , respectively, and by MOFS ( $M_2$ ). The effects of AAnx on DAS-DS (distal  $DV_2$ ) and Trust (distal  $DV_3$ ), respectively, would be fully mediated by IES-I and RAM ( $M_1$ ), respectively, and MOFS ( $M_2$ ).

Furthermore, there would be a direct effect of RAM on DAS-DS.

#### **Effects of AAnx on MOFS scores through IES-I and RAM (Hypotheses 1a).**

After controlling for the effect of TSD ( $\beta = .09, p = .03$ ) and OneTime ( $\beta = .06, p = .15$ ), the results indicated partial mediation of the effect of attachment anxiety (AAnx) on forgiveness (MOFS) by rumination (IES-I), but not attribution (RAM). AAnx had statistically significant direct effect on IES-I ( $\beta = .13, p = .01$ ) but not on RAM ( $\beta = .06, p = .26$ ). Both IES-I ( $\beta = -.09, p = .02$ ) and RAM ( $\beta = -.16, p < .001$ ) had statistically significant effects on MOFS. The total indirect effect of AAnx on MOFS was found to be significant ( $\beta = -.02, p = .03$ ), as was the direct effect ( $\beta = -.11, p = .01$ ), amounting to the total effect of ( $\beta = -.13, p < .01$ ). Taken together, these results indicated partial support for Hypothesis 1(a). Because AAnx was found to be non-significant in predicting RAM, the hypothesized mediated effects of attribution (i.e. RAM) on the relationship between AAnx and other recovery outcomes were not supported and thus would not be included in the following sections which describe the results of Hypothesis 1(b) when HSCL-21, DAS-DS, and Trust were the dependent variables.

#### **Effects of AAnx on HSCL-21 scores through IES-I, RAM, and MOFS**

**(Hypothesis 1b).** After controlling for the effect of time since disclosure of the affair (TSD;  $\beta = -.08, p < .05$ ), the total indirect effect of AAnx on HSCL-21 through mediators was statistically significant ( $\beta = .04, p < .01$ ) whereas the total indirect effect of IES-I on HSCL-21 was also significant ( $\beta = .01, p = .03$ ). The direct path from AAnx to MOFS ( $\beta = -.11, p$

= .01), AAAnx to HSCL-21 ( $\beta = .45, p < .001$ ), and IES-I to HSCL-21 ( $\beta = .21, p < .001$ ) remained significant, suggesting partial mediation. In other words, rumination (IES-I) partially mediated the relationship between attachment anxiety (AAAnx) and forgiveness (MOFS), and the relationship between attachment anxiety and psychological distress (HSCL-21); forgiveness in turn partially mediated the relationship between attachment anxiety and psychological distress, as well as the relationship between rumination and psychological distress. In summary, these results provided partial support for hypothesis 1(b).

#### **Effects of AAAnx on DAS-DS scores through IES-I, RAM, and MOFS**

**(Hypothesis 1b).** Results indicated that after controlling for the effect of one-time offense (OneTime;  $\beta = .09, p = .01$ ), the total indirect effect of AAAnx on DAS-DS through mediators was statistically significant ( $\beta = -.05, p < .01$ ) whereas the total indirect effect of IES-I on DAS-DS was also significant ( $\beta = -.03, p = .02$ ). The direct paths from AAAnx to MOFS ( $\beta = -.11, p = .01$ ), AAAnx to IES-I ( $\beta = .13, p = .01$ ), IES-I to MOFS ( $\beta = -.09, p = .02$ ), and MOFS to DAS-DS ( $\beta = .35, p < .01$ ) were all statistically significant. As in the earlier analysis, rumination partially mediated the relationship between attachment anxiety and forgiveness. Forgiveness in turn fully mediated the relationship between attachment anxiety and relationship satisfaction (DAS-DS), and the relationship between rumination and relationship satisfaction. Put differently, double mediated effects were observed such that the effect of attachment anxiety on relationship satisfaction was fully mediated by rumination ( $M_1$ ) and by forgiveness ( $M_2$ ). These results indicated partial support for hypothesis 1(b). Also, contrary with the hypothesis, the direct effect of RAM on DAS-DS was found to be not statistically significant ( $\beta = -.06, p = .10$ ).

**Effects of AAnx on Trust scores through IES-I, RAM, and MOFS (Hypothesis**

**1b).** The model indicated that after controlling for the effect of one-time offense (OneTime;  $\beta = .09, p = .01$ ), the total indirect effect of AAnx on Trust through mediators was statistically significant ( $\beta = -.02, p < .01$ ) and the total indirect effect of IES-I on Trust was also significant ( $\beta = -.02, p = .02$ ). The direct path from AAnx to MOFS ( $\beta = -.11, p = .01$ ), AAnx to IES-I ( $\beta = .13, p = .01$ ), IES-I to MOFS ( $\beta = -.09, p = .02$ ), and MOFS to Trust ( $\beta = .17, p < .001$ ) were all statistically significant. Rumination partially mediated the relationship between attachment anxiety and forgiveness. Forgiveness in turn fully mediated the relationship between attachment anxiety and relational trust (Trust), as well as the relationship between rumination and relational trust. In summary, consistent with hypothesis 1(b), the effect of attachment anxiety on relational trust was fully mediated by rumination ( $M_1$ ) and by forgiveness ( $M_2$ ).

Hypothesis 2 postulated that:

- (a) The effect of AAvoid (independent variable) on MOFS (proximal dependent variable) would be fully mediated by empathy for the offending partner (AE).
- (b) For each distal recovery outcomes, there would be second-order, full mediating effect through AE ( $M_1$ ) and MOFS ( $M_2$ ). Specifically, the effect of AAvoid on HSCL-21 (distal  $DV_1$ ), DAS-DS (distal  $DV_2$ ), and Trust (distal  $DV_3$ ) would be fully mediated by AE ( $M_1$ ) and by MOFS ( $M_2$ ).

**Effects of AAvoid on MOFS scores through AE (Hypotheses 2a).** After

controlling

for the effect of TSD ( $\beta = .09, p = .03$ ) and OneTime ( $\beta = .06, p = .15$ ), the results showed that empathy for the offending partner (AE) partially mediated the relationship between

attachment avoidance (AAvoid) and forgiveness (MOFS). AAvoid had a statistically significant direct effect on AE ( $\beta = -.26, p < .001$ ), and on MOFS ( $\beta = -.14, p < .01$ ); AE ( $\beta = .40, p < .001$ ) also had statistically significant effects on MOFS, which is indicative of a partial mediation relationship. This is further corroborated by the significant total indirect effect of AAvoid on MOFS ( $\beta = -.10, p < .001$ ). These results did not support hypothesis 2(a) in that AE partially, instead of fully, mediated the effects of AAvoid on MOFS.

**Effects of AAvoid on HSCL-21 scores through AE and MOFS (Hypothesis 2b).**

After controlling for the effect of time since disclosure of the affair (TSD;  $\beta = -.08, p < .05$ ), the total indirect effect of AAvoid on HSCL-21 through mediators was statistically significant ( $\beta = .02, p = .03$ ) and the total indirect effect of AE on HSCL-21 was also significant ( $\beta = -.04, p = .03$ ). The direct path from AAvoid to MOFS ( $\beta = -.14, p < .01$ ), AAvoid to AE ( $\beta = -.26, p < .001$ ), AE to MOFS ( $\beta = .40, p < .001$ ), and MOFS to HSCL-21 ( $\beta = -.09, p = .03$ ) were all statistically significant. As previously found, empathy for the offending partner (AE) partially mediated the relationship between attachment avoidance and forgiveness. Forgiveness in turn fully mediated the relationship between attachment avoidance and psychological distress (HSCL-21), and the relationship between empathy for the offending partner and psychological distress. Because each of the individual direct paths that comprised the mediation were significant, I concluded that the double-mediation effect was also significant (Kline, 2011). Otherwise stated, the effects of attachment avoidance on psychological distress was fully mediated by empathy for offending partner ( $M_1$ ) and by forgiveness ( $M_2$ ).

**Effects of AAvoid on DAS-DS scores through AE and MOFS (Hypothesis 2b).**

After controlling for the effect of One-time Offense (OneTime;  $\beta = .09, p = .01$ ), the total

indirect effect of AAVoid on DAS-DS through mediators was statistically significant ( $\beta = -.08, p = < .001$ ) whereas the total indirect effect of AE on DAS-DS was also significant ( $\beta = .14, p < .001$ ). The direct path from AAVoid to MOFS ( $\beta = -.14, p < .01$ ) and to DAS-DS ( $\beta = -.10, p = .03$ ) remained significant, suggesting partial instead of full mediation. Empathy for the offending partner (AE) partially mediated the relationship between attachment avoidance and forgiveness. Forgiveness in turn partially mediated the relationship between attachment avoidance and relationship satisfaction (DAS-DS), and fully mediated the relationship between empathy and relationship satisfaction. Contrary to the hypothesized full mediation effect (Hypothesis 2b), the effects of attachment avoidance on relationship satisfaction was partially mediated by empathy for offending partner ( $M_1$ ) and by forgiveness ( $M_2$ ).

**Effects of AAVoid on Trust scores through AE and MOFS (Hypothesis 2b).** The results indicated that after controlling for the effect of One-time Offense (OneTime;  $\beta = .09, p = .01$ ), the total indirect effect of AAVoid on Trust through mediators was statistically significant ( $\beta = -.04, p < .001$ ) and the total indirect effect of AE on Trust was also significant ( $\beta = .07, p < .001$ ). The direct path from AAVoid to MOFS ( $\beta = -.14, p < .01$ ) and to Trust ( $\beta = -.11, p < .01$ ) remained significant, suggesting partial instead of full mediation. Empathy for the offending partner (AE) partially mediated the relationship between attachment avoidance and forgiveness. Forgiveness in turn partially mediated the relationship between attachment avoidance and relational trust (Trust), and fully mediated the relationship between empathy and relational trust. Contrary to the hypothesized full mediation effect (Hypothesis 2b), the effects of attachment avoidance on relational trust was *partially* mediated by empathy for offending partner ( $M_1$ ) and by forgiveness ( $M_2$ ). In

summary, these results indicated partial support for hypothesis 2(b) such that the proposed *full* double-mediation effect was observed only for the effect of attachment avoidance on psychological distress; whereas *partial* mediation effect was observed for the other two distal recovery outcomes (i.e. relationship satisfaction and relational trust).

### **Hypothesis 3: First-Stage Moderated Mediation Effects**

Hypotheses three postulated that the relationship between two attachment dimensions (AA<sub>Anx</sub> and AA<sub>Avoid</sub>) and social-cognitive variables (IES-I, RAM, and AE) would vary depending on the levels of perceived partner empathy (BLRI), which in turn would affect forgiveness. To test this first-stage moderated mediation hypothesis, the significance of the direct paths between the product term of AA<sub>Anx</sub>\_C\*BLRI\_C and IES-I and RAM, respectively, as well as the direct path between the product term of AA<sub>Avoid</sub>\_C\*BLRI\_C and AE were tested after controlling for TSD and OneTime scores (covariates). As shown in Figure 3 and Table 9, these paths were not statistically significant: IES-I ← BLRI\_C\*AA<sub>Anx</sub>\_C ( $\beta = -.00, p = .93$ ), RAM ← BLRI\_C\*AA<sub>Anx</sub>\_C ( $\beta = -.04, p = .40$ ), and AE ← BLRI\_C\*AA<sub>Avoid</sub>\_C ( $\beta = -.05, p = .45$ ), suggesting that there was no moderated mediation effect. The small effect sizes provided further evidence to conclude the absence of a meaningful moderation in the current sample. Even though dropping the non-significant interaction terms could lead to a more parsimonious model, the decision to retain these interaction terms in the final model was guided by theoretical conceptualization.

**Direct and Indirect Effects of BLRI.** Even though the model did not support the hypothesized moderated effect of perceived partner empathy (BLRI), the findings revealed that BLRI was significantly associated with one of the social-cognitive variables: attribution (RAM),  $\beta = -.26, p < .001$ . BLRI was also found to have significant, large direct effects on



relational-level outcomes: DAS-DS ( $\beta = .48, p < .001$ ) and Trust ( $\beta = .66, p < .001$ ), and for these outcomes, its effects held above and beyond the influence exerted by MOFS.

As for indirect effects, the results indicated that BLRI had significant total indirect effects on three out of four outcome variables: MOFS ( $\beta = .08, p < .01$ ), DAS-DS ( $\beta = .04, p < .01$ ), and Trust ( $\beta = .01, p < .01$ ), suggesting presence of mediation effects. Namely, after controlling for the effect of TSD ( $\beta = .09, p = .03$ ) and OneTime ( $\beta = .06, p = .15$ ), there was a full mediation of the effect of perceived partner empathy (BLRI) on forgiveness (MOFS) by attribution (RAM). Recall that the direct paths from BLRI to RAM ( $\beta = -.26, p < .001$ ) and from RAM to MOFS ( $\beta = -.16, p < .001$ ) were both statistically significant.

While there is evidence for the mediation effect of RAM on the relationship between BLRI and MOFS, the results indicated that MOFS in turn partially mediated the relationship between RAM and DAS-DS, and RAM and Trust, respectively, after controlling for the effect of One-time Offense (OneTime;  $\beta = .09, p = .01$ ). However, the significant direct paths from BLRI to DAS-DS, and to Trust, respectively, suggested partial mediation effect. In other words, there was a partial, double mediated effect of perceived partner empathy (BLRI) on relationship satisfaction (DAS-DS) through attribution ( $M_1$ ) and through forgiveness ( $M_2$ ). Likewise, the effect of perceived partner empathy on relational trust (Trust) was partially mediated by attribution ( $M_1$ ) and by forgiveness ( $M_2$ ).

## CHAPTER 4

### DISCUSSION

Extending previous research on recovery from infidelity, I tested whether the links between attachment orientation and forgiveness ensuing infidelity in committed relationships were mediated by socio-cognitive variables such as empathy for offending partner, rumination, and attribution. Forgiveness, in turn, was postulated as the mediating variable between attachment and other distal recovery outcomes, including psychological distress, relationship satisfaction, and relational trust. Novel to the infidelity literature, I tested the role of perceived partner empathy as potential moderator of the relationship between attachment insecurity (AA<sub>Anx</sub> and AA<sub>Avoid</sub>) and socio-cognitive variables which served as the antecedents to forgiveness. In addition, I controlled for prior history of infidelity by partner (repeated offense as the reference group) and time since disclosure/discovery of affair, since both variables have been found to have impact on forgiveness and other recovery outcomes.

Overall, path analytic findings of this study supported that attachment anxiety and avoidance significantly related to various types of personal and relational recovery outcomes, either directly, or indirectly through mediated relationships (discussed more fully in following sections), and largely in theoretically predicted ways. In a nutshell, five main findings emerged. First, the attachment anxiety – forgiveness link was *partially* mediated by excessive rumination, but not attribution (Hypothesis 1a), and the attachment avoidance – forgiveness link was *partially* mediated by low empathy for offending partner (Hypothesis

2a). Second, forgiveness served as the second-order mediator between insecure attachment and other distal recovery outcomes; however, its role differed (i.e. full vs. partial mediator) for individuals high in attachment anxiety and high in attachment avoidance, respectively, depending on the type of recovery outcome (i.e. intrapersonal vs. relational). Third, contrary to Hypothesis 1a, perceived partner empathy, but not attachment anxiety, significantly predicted participants' non-benign attribution for their partner's transgression, and this negative attribution in turn mediated the effects of perceived partner empathy on all outcome variables. Fourth, contrary to my prediction (Hypothesis 3), perceived partner empathy did not moderate the relation between insecure attachment and the mediating variables rumination, attribution, and empathy for offending partner. Lastly, not only was perceived partner empathy a significant predictor of both relational recovery outcomes (i.e. relationship satisfaction and relational trust), the magnitude of the direct links between perceived partner empathy and these two outcome variables were the greatest as compared to the link between forgiveness (or attachment avoidance) and these same outcome variables. In the following sections, I discuss the study's significant findings in more detail, drawing from theories and literature to make sense of the results and inform direction for future studies. In addition, clinical applications and limitations of the study are outlined.

### **Attachment and Forgiveness**

Hazan and Shaver (1987) asserted that one's internal working model of self and other influences how he or she will react to interpersonal injuries, such is the case with infidelity. Thus, I predicted that those with insecure attachment (high in AAnx and/or AAvoid) would be less likely to forgive the offending partner, thus having greater difficulty recovering from the affair. Consistent with my prediction, I found that participants with high attachment

anxiety reported reduced levels of forgiveness in response to partner's betrayal. Likewise, high avoidant attachment was found to be negatively linked to level of forgiveness post-affair. This finding lends further support for the already-established inverse relationship between insecure attachment and forgiveness (e.g. Burnette et al., 2009; Kachadourian et al., 2004; Lawler-Row et al., 2006). For anxiously attached individuals who tend to have negative self-concept (i.e. negative model of self), their partner's act of betrayal may be interpreted as proof of their own inadequacies or unworthiness of love (Bartholomew & Horowitz, 1991; Kachadourian et al., 2004). Consequently, they may experience their partner's infidelity as a personal rejection and react with heightened anger and resentment, all of which may interfere with their willingness to engage in the forgiveness process. In contrast, people with negative model of others (i.e. high in attachment avoidance) may view their partner's betrayal as more evidence that he or she is unavailable, untrustworthy, and as such, may be less willing to forgive.

### **The Mediating Roles of Rumination, Attribution, Empathy in the Attachment-Forgiveness Link**

One of the primary contributions of the present study has also been to address the influence of possible mediating mechanisms on the link between attachment insecurity and forgiveness following partner's infidelity. To address this question, I examined a theoretically grounded model of socio-cognitive correlates of forgiveness (McCullough et al., 1998) and alternative models as mediators in the attachment-forgiveness relationship. Path analytic results indicated that excessive rumination, but not non-benign attribution, partially mediated the anxious attachment-forgiveness link, thus lending partial support for Hypothesis 1(a). As expected, and consistent with Burnette et al.'s (2009) findings, relative

to securely-attached individuals, injured partners high in attachment anxiety may struggle to forgive because they tended to engage in excessive rumination that was likely fearful in nature. The absence of full mediation by rumination between attachment anxiety and forgiveness also suggests that anxiously attached individuals may experience internal dilemma associated with their attachment anxiety – on one hand, their tendency to ruminate on their angry and hurt feelings makes it hard to forgive, yet their overwhelming fears of abandonment may propel them to forgive their partner’s betrayal in order to cope with attachment threat and anticipatory relational loss. This pattern of results appears to parallel the hyperactivated cognitive and affective regulation styles of an anxiously attached person depicted by the adult attachment theory (Hazan & Shaver, 1987; Fraley & Shaver, 2000).

The findings that anxious attachment was not significantly related to attribution contradicts my prediction (Hypothesis 1a), and is quite opposite to existing literature that shows anxious attachment as a significant predictor of negative (i.e. relationship-threatening) attributions in romantic relationships (Collins et al., 2006; Gallo & Smith, 2001). However, it is important to note that previous studies examining the link between attachment style and attribution in close relationships (Collins et al., 2006; Gallo & Smith, 2001) employed vignette methodology or experimental design (i.e. discussion tasks). On the contrary, the current study assessed participants’ *actual* cognitive and emotional responses following infidelity. It is very likely that attributions for hypothetical or manufactured events may not correspond to the attributions one would make in response to actual events, thus explaining this discrepancy in findings. Other factor such as measurement error, as indicated by low Cronbach’s alpha for the RAM scale, may have attenuated the relationship between anxious attachment and attribution. Moreover, the decision to use the composite attribution score in

lieu of *causal* and *responsibility* subscale scores despite the lack of structural validity evidence for using the RAM as a unidimensional measure may have contributed to the discrepant results as well. Another plausible explanation is that injured partners in the present study may have developed attributions for their partner's unfaithful behavior drawing from relational and contextual cues rather than resorting to their own proneness to appraise social reality in a negative way which would have been related to their attachment anxiety. One example of relational or contextual cue is perceived partner empathy which happened to be a significant predictor of attribution in the current study. Further, the fact that the offending partner remained in the primary relationship at the time of this study could be perceived as evidence of intent to change which may in turn colored injured partner's interpretation of their unfaithful behavior, despite injured partner's own insecurity, anxiety, and fear.

Further, path analytic results indicated that the relation between higher attachment avoidance and lower forgiveness was partially mediated by empathy toward the offending partner, lending partial support for Hypothesis 2(a) which predicted a full mediation effect. That is, empathy for one's offending partner may be a part of the mechanism responsible for the negative association of attachment avoidance and forgiveness. This finding is generally consistent with the predictions derived from the adult attachment theory which posits that because of the negative internal working models of others, individuals with high attachment avoidance tend to avoid emotional intimacy and seek to be excessively self-reliant (Mikulincer & Florian, 1998). Accordingly, in times of relational distress, avoidantly attached individuals have been found to employ deactivation strategies by being emotionally withdrawn and less willing to engage in remediating efforts such as forgiveness to address

relationship issues (Allen & Baucom, 2004; Wang et al., 2012). The mediating effect of empathy for offending partner in the present study helps to further illustrate the essential internal process experienced by avoidantly-attached individuals in facing relational betrayal. For these folks, experiencing and expressing empathy toward the offending partner requires a certain level of emotional vulnerability which may feel too threatening for them. Thus, their lack of empathy may serve a self-protective function when dealing with attachment threat and makes it harder for them to forgive. Failure to replicate Burnette and colleagues' (2009) findings of *full* mediation effect of empathy on attachment avoidance – forgiveness link suggests that additional factors such as mistrust may play into low levels of forgiveness, an area that warrants further exploration in future studies.

Although not included in the initial hypothesized model, non-benign attribution and empathy for the offending partner were found to be significantly correlated hence their disturbances were correlated in the final model (see Figure 3). The negative correlation was significant though the effect size was small. This finding is not a surprise given that those who make more non-benign attribution for the infidelity may have greater difficulty experiencing empathy toward their offending partner, and vice versa.

### **Forgiveness as Outcome and Mediator of Attachment Insecurity for Post-Affair Recovery**

Because of its restorative nature and salutary impact (Hill, 2010), forgiveness was conceptualized as both indicator of personal recovery as well as precursor to other personal and relational healing in the current study. It is worth mentioning again that forgiveness is *not* reconciliation in that one can forgive an offending partner and let go of the need for revenge without wishing to reconcile with that person. However, for couples who choose to

rebuild their relationship after the affair is over, forgiveness is believed to be one of the most crucial psychological and relational processes during the recovery through which hostilities and resentments can be relieved and relationship ruptures can be repaired.

The current study sought to replicate the relationships between attachment, forgiveness, and mental health ramifications (i.e. psychological distress) established in Burnette and colleagues' study (2009) in the context of post-affair recovery. I also extended past work by examining the relational implications of insecure attachment and forgiveness in response to infidelity (discussed in greater details below). Put simply, the results of path analysis showed that forgiveness not only had significant predictive effects on psychological distress, relationship satisfaction, and relational trust but also mediated the relationship between aspects of attachment and the outcome variables. Forgiveness was negatively related to psychological distress (more forgiveness, less distress), and positively related to relationship satisfaction and relational trust (more forgiveness, higher satisfaction and trust). The following sections explain the mediating role of forgiveness in the relation between attachment and other recovery outcomes.

### **Psychological Distress as Indicator of Personal Recovery**

As suggested by the path analytic findings, both attachment dimensions were related to psychological distress, either directly, or indirectly through mediated relationship with forgiveness, along with rumination or empathy (double-mediated effect), in theoretically predicted ways. Specifically, forgiveness partially mediated the relationship between attachment anxiety and psychological distress (Hypothesis 1b), and fully mediated the relationship between attachment avoidance and psychological distress (Hypothesis 2b). Additionally, rumination partially explained the effects of attachment anxiety on forgiveness



whereas the attachment avoidance – forgiveness link was partially accounted for by amount of empathy toward offending partner. Apparently, the higher an individual's *attachment anxiety*, the less level of forgiveness he or she reports – in part due to greater rumination – which in turn relates to more psychological distress to some extent (partial mediation). Conversely, the higher an individual's *attachment avoidance*, the less forgiveness he or she reports in part due to lower level of empathy for offending partner, and the more psychological distress he or she experiences as a result. Note that rumination was also found to uniquely contribute to psychological distress after accounting for the effect of forgiveness, which is in line with previous research suggesting rumination leads to increased focus on one's distress, amplify dysphoric emotions thus increases vulnerability to psychological distress (Papadakis et al., 2006).

Taken together, this pattern of results is consistent with previous research (Burnette et al.'s, 2009) and supports the theoretical assumption (Collins et al., 2006; Fraley & Shaver, 2000) that in response to partner's betrayal, anxiously attached individuals tend to react with a mixture of adaptive (e.g., forgiveness) and maladaptive (e.g., ruminative coping) emotional and behavioral regulation strategies reflecting their internal bipolar pull, and consequently report heightened emotional distress. Thus, injured partners who are anxiously attached may continue to experience lingering emotional and psychological pain even when they actively choose to stay in the relationship, perhaps due to perseverative processing of negative information about the affair that reinforces both perception of relationship being unsafe and persistent doubts about self-worth, which in turn makes it challenging for them to forgive their partner's betrayal. A look at the effect sizes for the direct paths from anxious attachment, rumination, and forgiveness to psychological distress provides further evidence

for this assertion such that anxious attachment has the largest effect size (.45) thus explaining the most amount of variance in distress followed by rumination (.21), whereas forgiveness has the smallest effect size (.09) hence explaining least amount of variance in distress.

On the contrary, relative to secure individuals, injured partners who are high in avoidance were more likely to report psychological distress, albeit this relationship is fully accounted for by low level of forgiveness and low empathy for offending partner. As Glass and Staeheli (2003) wrote, “Forgiving is not a single event, but a gradual process of increasing compassion and reducing resentment” (p. 339). Part of the steps leading to forgiveness include discovering empathy for each other (Hill, 2010); such empathy, however, may not be readily possible for avoidantly-attached individuals who struggle with emotional vulnerability, making them less likely to engage in relationship-maintenance behavior such as forgiveness (Collins et al., 2006; Wang et al., 2012). As a result, they may find themselves carrying along feelings of hurt, bitterness, and resentment which contribute to psychological distress.

### **Recovery at the Relational Level**

Moving beyond intrapersonal recovery, I also examined relational implications (i.e. relationship satisfaction and relational trust) of attachment insecurity in response to partner’s infidelity. Corresponding to Hall and Fincham’s (2006) study, the results of path analysis confirmed that forgiveness takes a central stage in the reconciliation process for favorable recovery outcomes for couples experiencing infidelity. To recap, forgiveness was positively related to relationship satisfaction and relational trust, it also mediated the associations between attachment and these relational outcomes.

**Relationship satisfaction.** For injured partners, having high level of attachment anxiety and avoidance was directly or indirectly associated with decreased relationship satisfaction post-affair via the level of forgiveness, along with rumination and empathy (double-mediated effect). Specifically, the effect of attachment anxiety on relationship satisfaction was *fully* mediated by rumination and forgiveness (consistent with Hypothesis 1b); whereas the link from attachment avoidance to relationship satisfaction was *partially* mediated by empathy and forgiveness (partial support for Hypothesis 2b). Put simply, anxiously-attached individuals engaged in greater rumination about the infidelity, thus were less forgiving of their offending partner, which then leads to decreased satisfaction in the relationship post-affair. This finding provides additional support for the attachment-forgiveness-relationship satisfaction link documented in previous research (e.g. Kachadourian et al., 2004) and adds to our understanding of the mechanisms through which attachment anxiety and relationship satisfaction are related.

For avoidant attachment, the link to relationship satisfaction was only *partially* mediated by empathy toward offending partner and forgiveness, disconfirming the full-mediation hypothesis (Hypothesis 2b). It appears that low levels of empathy toward offending partner and subsequent decreased forgiveness only partially explain the effects of attachment avoidance on relationship satisfaction, suggesting that other factors may affect the way avoidantly-attached individuals experience their relationship after the infidelity. It is possible that what is reflected in lower levels of relationship satisfaction for injured partners high in attachment avoidance is in part their discomfort with closeness and intimacy which may be especially salient in times of relationship crisis. This explanation would be consistent with Wang and colleagues' (2012) findings that avoidantly attached individuals

tended to adopt the deactivation strategies (e.g. avoidant of intimacy, greater emotional distancing) when faced with potential attachment threat.

**Relational trust.** Working towards the reestablishment of trust can be complex and challenging during the reconciliation process. Results from path analysis showed that forgiveness can help facilitate rebuilding of trust, though its effect size was small. As predicted, forgiveness acted as a mechanism *fully* linking attachment anxiety to relational trust, also via rumination (Hypothesis 1b). In contrast, high attachment avoidance was both directly and indirectly associated with low relational trust post-affair via forgiveness and empathy, indicating a partial mediation effect (partial support for Hypothesis 2b). Although research examining the association between adult attachment and trust in romantic relationship is limited, the extant research has shown that securely attached individuals tended to feel more trusting of others and were more likely to adopt constructive strategies in coping with violation of trust (Collins & Read, 1990; Mikulincer, 1998). Thus, additional support was obtained for the attachment-trust link. Further, the current investigation also found support for the mediating role of forgiveness between attachment and trust. The higher an individual's attachment anxiety (less secure), the less forgiving he or she is of partner's betrayal (partly due to excessive rumination of the offense), which in turn relates to lower trust toward the offending partner.

Individuals who did not develop basic trust during childhood, as in the case with avoidantly attached individuals, are especially vulnerable to deception by a loved one in adult intimate relationships (Fraley & Shaver, 2000). Infidelity brings back all of those attachment wounds from their earlier formative years and further reinforces their negative internal working models of others that regard people as generally undependable and not trustworthy.

Fractured trust in the aftermath of infidelity may prove to be harder to restore for folks who already struggle with trust to begin with, and our results supported this basic tenet of attachment theory. Indeed, the path analytic findings showed that forgiveness only *partially* explains the effects of attachment avoidance on relational trust, suggesting that the pattern of distrust evidenced by avoidant individuals may also relate to other psychological needs such as self-preservation.

Essentially, the present research, in combination with other works (e.g. Gordon et al., 2004; Heintzelman et al., 2014; Kachadourian et al., 2004; Olson et al., 2002), further elaborate the indispensable role of forgiveness in the personal and relational healing processes in the wake of infidelity, especially for couples who choose to work toward reconciliation. The path analytic findings from this study also appear to largely parallel the intrapersonal affective and cognitive process as well as the interpersonal styles of insecurely attached individuals depicted by the theory (Mikulincer & Florian, 1998).

### **The (Non-Significant) Moderating Role of Perceived Partner Empathy**

In addition to addressing the mediating role of social-cognitive variables, the present study also examined the conditions under which these mediated relationships between attachment dimensions and social-cognitive variables may occur. Contrary to the hypotheses, the effects of attachment insecurities (avoidance and anxiety) on rumination, attribution, and empathy were not conditional on the levels of perceived partner empathy. Because there is no prior research examining perceived partner empathy in the context of infidelity, reasons for this nonsignificant finding can only be tentatively offered. One potential explanation for this finding is that individuals who are high in either attachment avoidance or attachment anxiety may be less likely to perceive their partner as being

empathic even in the presence of *expressed* empathy by the offending partner. This is evidenced by the moderate negative correlation between BLRI-E scores with AAAnx ( $r = -.36$ ,  $p < .001$ ) and AAvoid scores ( $r = -.34$ ,  $p < .001$ ), respectively. While future research may need to further clarify if there is any masking or suppressing effects of perceived partner empathy on attachment insecurity or vice versa, the nonsignificant results fit with one fundamental assumption of attachment theory: that is, new experiences will likely be interpreted in ways that are consistent with one's general working models of self and others (Collins et al., 2006). However, note that attachment theory also assumes that one's working models of self and others are also malleable to new corrective experiences, but perhaps there needs to be a lot more reassurance and commitment shown by the offending partner than just empathy alone, for an anxiously-attached individual to first receive the empathy expressed as is, and to let that attenuate their ruminative tendencies, and for an avoidantly-attached individual to receive from and express empathy to an offending partner.

Moreover, a non-significant result does not necessarily mean that there is no interaction effect in the population; rather, it means that there is no sufficient evidence in the present sample to conclude that there was an interaction effect between perceived partner empathy and attachment insecurity on empathy, attribution, and rumination, respectively. Additionally, moderation may be more difficult to detect in nonexperimental than experimental research due to lesser control (weak internal validity) and greater measurement error (McClelland & Judd, 1993). In the present study, measurement error may be indicated by the low internal consistency and lack of evidence for unidimensionality of the RAM scores. Whatever the reason may be, the results from the overall process model offer less

illumination than I had anticipated in illustrating the potential interaction between attachment differences and perception of empathy received on individual's responses to infidelity.

### **Perceived Partner Empathy as A Significant Predictor of Attribution and Relational Outcomes**

Unexpectedly, an interesting finding in this study was that perceived partner empathy – but not attachment anxiety as hypothesized – was predictive of attribution. With regard to intrapersonal recovery outcomes, the effect of perceived partner empathy on *forgiveness* was fully mediated by non-benign attribution and that the effect of perceived partner empathy on *psychological distress* was fully mediated by attribution and forgiveness. In terms of relational recovery, the link from perceived partner empathy to *relationship satisfaction* and to *relational trust*, respectively, was partially mediated by attribution and forgiveness. In other words, the results suggest that those who reported higher level of perceived partner empathy tended to endorse less non-benign attributions, as such making them more likely to forgive the offending partner and experience less psychological distress. Additionally, these individuals (high perceived partner empathy) also reported greater relationship satisfaction and higher relational trust post-affair, in part due to less negative attribution and greater forgiveness.

Meaning making is a critical part of adjusting to a traumatic experience because it allows for the development of coherent accounts and understanding of what happened (Collins et al, 2006; Gallo & Smith, 2001; Glass & Staeheli, 2003). When it comes to the trauma of an affair, the results from the present study suggest that contexts of infidelity, informed by offending partner's attitude, seem to shape the way injured partners develop explanations for their partner's unfaithful behavior. While further research should verify this

finding, the observed phenomenon makes sense in that with each caring gesture, each episode of attentive listening, and each effort to understand the injured partner's experience shown by the offending partner, the injured partners are less likely to attribute their partner's unfaithful behavior to stable, global, and internal causes (non-benign attribution) – an attributional pattern that has been shown to predict relationship dysfunction and less forgiveness (Bradbury & Fincham, 1990).

Even more fascinating was the finding that the magnitude of the links between perceived partner empathy and relational trust and relationship dissatisfaction were larger compared to the links between injured partner's own attachment and relational trust and satisfaction. This could suggest that the perception of offending partner's empathy may serve as a barometer of their intent to change and commitment to the reconciliation process, thus are especially useful in predicting relational outcomes. Given that researchers have traditionally focused on individual vulnerabilities of the injured partner that may affect the process of recovery from infidelity, the study results indicate the vital role of offending partner in the relational healing process, suggesting that this is an area that warrants further investigation in future research.

Overall, even though the pattern of relations concerning perceived partner empathy and other variables examined in the present work was not congruent with my hypotheses, the path analytic results provide evidence that perceived partner empathy plays an important role in promoting recovery, especially in facilitating relational healing post-affair. Given the robust predictive power of perceived partner empathy in relational outcomes, researchers might devote additional attention to mechanisms through which these variables are related.



## **Clinical Implications**

Betrayals of intimacy and commitment are notoriously difficult to treat. The main utility of the present study lies in the potential guidance for clinicians when working with couples presenting with infidelity and desiring to work towards healing. Drawing from the path analytic findings, I suggest two fundamental points that are important for clinicians to consider in working with couples in recovery from infidelity. First, understanding the role of each partner's attachment style may help therapists recognize possible affective and cognitive processes underlying clients' attachment-related behaviors. For example, clients with high attachment anxiety may be more prone to engage in pervasive rumination to cope with their abandonment fear whereas clients with high attachment avoidance may be more likely to engage in emotional distancing and withdrawal when attachment needs are activated. With this knowledge, therapists could help increase clients' awareness of their own attachment pattern as well as their partner's to better understand the fundamental relational dynamics of both individuals in the dyad and of their relationship. This understanding may bring new insights about the self-sabotaging nature of their patterns of relatedness, thus providing an opportunity for corrective emotional experiences that may strengthen relationship and improve therapy outcomes. Indeed, Olmstead and colleagues' (2009) research underscored the importance of incorporating relationship assessment early on in clinical treatment of infidelity. Attending to relational processes is closely linked to what Makinen and Johnson (2006) described in their attachment injury resolution model of infidelity treatment. While moving through the eight steps delineated in the model, therapists adopting this approach work to move couples away from "hard feelings" (e.g. anger, hatred, revenge) towards "softer feelings" that are more connecting (e.g. hurt, fear), in hope to

resolve attachment injuries through changing the way couples relate and addressing their attachment needs.

Second, the current study lends support to the mounting evidence (e.g. Abrahamson et al., 2012; Gordon et al., 2004; Olson et al., 2002) that forgiveness is a defining component in the personal and relational healing process. Participants in the present study who reported engaging in forgiveness process also reported healthier adjustment both personally and relationally. Forgiveness thus offers an opportunity for the release of painful and intense emotions as well as the restoration of intimacy and trust (Hill, 2010). Couple's counseling therapists can help facilitate the healing process by implementing forgiveness-based interventions such as Gordon and colleagues' (2004) three-stage integrative forgiveness model. However, introducing the concept of forgiveness to couples proves challenging for therapists, especially where the intense emotional wounds may still linger (Olmstead et al, 2009). The significant mediating effects of socio-cognitive variables found in this study may shed light on points of intervention. For example, the results suggest that when working with anxiously attached clients, it may be helpful for clinicians to address their ruminative tendency before attempting to facilitate forgiveness. Mindfulness meditation such as Loving Kindness Meditation, used in conjunction with Gordon and colleagues' (2004) treatment model, has been found to be effective in increasing compassion for self and others, thus leads to feelings of forgiveness in couples recovering from infidelity (Cunningham & Cardoso, 2012).

For avoidantly attached clients who tend to be emotionally distancing, therapists may work toward emotional reengagement where clients are able to take manageable risks in receiving and expressing vulnerable feelings including empathy. I must, however, add a

cautionary note about problematic reenactment of maladaptive relational patterns in therapy: consistent with attachment perspective, clients who have suffered major attachment injuries in which trust has been breached are likely to seek out comfort and safety from their therapists (Mikulincer & Shaver, 2007). Although it is important for therapists to establish a secure base for the client as they work through the pernicious effects of infidelity, they also need to be especially mindful of being pulled into interactions that affirm maladaptive relational patterns developed from clients' earlier experiences.

In light of the findings that attribution fully mediates the link between perceived partner empathy and forgiveness, a different approach suggested by this study might be to directly enhance offending partner's ability to respond to the security needs of their partner in a caring and empathic manner, as implied in the attachment injury resolution model (Makinen & Johnson, 2006). As indicated in path analytic results, injured partners are more likely to interpret their partner's unfaithful behavior in relationship-enhancing light and in turn, more likely to forgive, if they experience greater level of empathy expressed by their partner which can be achieved through deepening emotional engagement and expression of clear emotional messages. Considered collectively, the present findings lend empirical support to two of the treatment models reviewed: Gordon et al.'s (2004) forgiveness intervention as well as Makinen and Johnson's (2006) attachment injury resolution model.

### **Limitations and Future Directions**

Given the exploratory nature of the current study, the findings should be interpreted and applied with caution while serving as a catalyst for further exploration and replication. The current section highlights key limitations of the study. First, the present study may be limited by selection bias among participants given that the study may have attracted injured

partners who continue to regard infidelity as a salient issue in their lives and relationship by virtue of joining online support group or online forums for survivors of infidelity, which were the primary recruitment sites. It is unclear how this group may differ from those who have survived and recovered from infidelity but are not part of such social groups.

Moreover, because of the recruitment method, data were restricted to online participants.

Thus, it is important for future studies to investigate the proposed model using different recruitment method (e.g. in-person recruitment, referrals from other healthcare providers, posting recruitment materials at other sites such as local business establishments) and with different populations (e.g. injured partners currently receiving treatment for infidelity).

Second, the correlational, cross-sectional, self-report nature of research design limits causal inferences, thus posing a threat to internal validity of the study. Future research employing longitudinal design is necessary to establish the causal pathways among predictors, mediators, and outcome variables, as well as investigate the long-term effects of insecure attachment on recovery from infidelity. Relatedly, participants in this study gave retrospective accounts of their experiences which may have been biased; therefore, caution must be used in interpreting these results. To give an example, scores on ECR-R may have been influenced by the participants' experience with infidelity. However, due to the cross-sectional and retrospective nature of the present study, there is no way of knowing if the participants' attachment remained the same or has changed from pre- to post-affair.

Furthermore, the effects of *time since disclosure/discovery of the affair* and *prior history of infidelity* were controlled but not examined further in the current study.

Additionally, *gender* and *type of infidelity* (sexual affair vs. combined sexual and emotional affair, in particular) were found to have small, but significant effects on one of the four

recovery outcomes. I ultimately did not include the latter two variables in the model as covariates due to power consideration. Future research may need to attend to how differences in time lapsed, repeated versus one-time offense, male versus female, and sexual affair versus combined affair affect recovery outcomes. Interestingly, seventy percent of the participants indicated that they have had therapy either at present or in the past to address infidelity-related grievances; however, therapy experience was not a significant predictor of forgiveness or any other recovery outcomes. Because the current study only examined the effect of therapy experience or the lack-of, future studies may want to assess length of therapy and its association with recovery outcomes.

Another limitation, as noted earlier, was the low reliability of the RAM measure and its unstable factor structure, which likely led to attenuated relationships with attachment anxiety, therefore posed a threat to both internal validity and statistical conclusion validity of the results. Thus, any inferences made from RAM and its relationship to other variables should be more tentative than those of other variables that demonstrated higher internal consistency.

It should be noted that the current sample consisted largely of White, cis-woman, and heterosexual-identified individuals, calling into question the generalizability of these findings. Accordingly, the results of this study may have been sample-dependent and the external validity may be somewhat limited. The present findings could be bolstered by future studies testing the same model in populations with more diverse cultural backgrounds.

Taken together, the path analytic findings revealed that the socio-cognitive correlates – especially rumination and empathy – accounted for part, but not all of, the relationship between attachment and forgiveness in response to partner’s infidelity. It should be noted,

too, that the relationship between rumination and forgiveness was weak. Therefore, future research is needed to explore other possible mechanisms through which attachment and forgiveness are related within the context of infidelity. One possible variable of interest could be conflict resolution strategies. There has been some preliminary evidence (Feeney et al., 1994; Wang et al., 2012) suggesting that securely attached individuals are more likely to handle relational distress in a more constructive way (e.g. display lower levels of withdrawal and verbal aggression, higher levels of assertion, support of partner, etc.). These constructive conflict resolution strategies, in turn, may facilitate forgiveness and could have relevant implications for forgiveness-promoting interventions.

Finally, the relations between attachment, forgiveness, and other recovery outcomes might lie within pre-existing relational dynamics. Blow (2005) posited that characteristics of individuals in the relationship, as well as the dynamics of the relationship as a whole, predict the ways in which the couple negotiates the infidelity. A study of ten couple therapists specializing in treating infidelity by Olmstead, Blick, and Mills (2009) provided support for this assertion. Specifically, therapists often found that affair is a symptom of deeper problematic elements of the couple's relationship that precipitated the affair. Thus, understanding whether relationship vulnerabilities set the stage for an affair can help both partners accept mutual responsibility for their own contributions to the pre-existing relational dynamics, and this acceptance of responsibility may in turn facilitate mutual empathy and eventual forgiveness. Given that the current study primarily focused on individual vulnerabilities (e.g. attachment orientation), future research may examine the influences and roles of pre-existing relational characteristics on how couples weather the storm of relational

crisis brought by infidelity. Investigations of this nature could provide valuable insights concerning potential avenues for facilitating recovery from infidelity.

### **Conclusion**

The present study advanced the current literature on infidelity by (a) integrating McCullough et al.'s model of forgiveness with attachment theory to examine the forgiveness process ensuing infidelity, (b) simultaneously considering recovery along individual and relational dimensions, and (c) including relational trust for gaining insight into the process of restoring faith. Most importantly, this study is the first, to my knowledge, to examine the role of the offending partner in the recovery process, albeit indirectly, through perceived partner empathy. Even though I did not find support for the moderated mediation hypothesis, the results revealed the crucial role perceived partner empathy plays in shaping attribution for partner's behavior as well as in facilitating relational recovery. Repairing the damage of infidelity requires sustained effort by both partners over time. The present study sheds light on pathways through which partners could work together to overcome individual vulnerabilities such as attachment insecurity in order to achieve desirable healing outcomes including less psychological distress and improved satisfaction and trust.

## Appendix A

### Demographics Questionnaire

Please respond to the following items:

Gender:

Cis-man (one's gender identity as a man corresponds to the sex assigned at birth, male)

Cis-woman (one's gender identity as a woman corresponds to the sex assigned at birth, female)

Transman (one's gender identity as a man does not correspond to the sex assigned at birth, female)

Transwoman (one's gender identity as a woman does not correspond to the sex assigned at birth, male)

If the above terms do not adequately describe your gender, please use your own words to do so: (\_\_\_\_\_)

Age: \_\_\_\_\_

Race/Ethnicity

I identify myself as:

African-American

Asian or Asian American

White/Caucasian

Hispanic/Latino/Latina

Native American

Biracial/Multi-racial

Other (\_\_\_\_\_)

Sexual Orientation:

Heterosexual

Gay/Lesbian

Bisexual

If the above terms do not adequately describe your sexual orientation, please use your own words to do so: (\_\_\_\_\_)

Highest level of education completed:

Less than high school

High school diploma/ GED

Associates degree

Undergraduate degree/ bachelor's degree

Graduate degree

Time since Partner Participated in the Infidelity: \_\_\_\_\_ (in months)

Time since Disclosure/Discovery of the Affair: \_\_\_\_\_ (in months)



Length of the Affair: \_\_\_\_\_

Types of Infidelity:

Sexual only

Please describe the nature of sexual infidelity (e.g. having sexual intercourse with another person, cybersex, sexting):  
\_\_\_\_\_

Emotional only

Please describe the nature of emotional infidelity (e.g. falling in love with another Person, romantic attraction): \_\_\_\_\_

Combined sexual and emotional affair

Please describe the nature of combined sexual and emotional infidelity:  
\_\_\_\_\_  
\_\_\_\_\_

Prior History of Infidelity:

Repeated offense

One-time offense

Relationship Status When Infidelity Took Place:

In a committed dating relationship

Married

Current Relationship Status :

In a committed dating relationship

Length of relationship: \_\_\_\_\_ (in months)

Married

Length of relationship: \_\_\_\_\_ (in months)

Are you and your partner currently seeking couples therapy to address infidelity-related grievances?

Yes

If Yes, for how long? \_\_\_\_\_ (number of sessions)

No

If No, have you and your partner ever sought couples therapy for the most recent incident of infidelity? If Yes, for how long were you in therapy? \_\_\_\_\_ (number of sessions)

## Appendix B

The Experience in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000)

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 relationship. Respond to each statement by clicking a circle to indicate how much you agree or disagree with the statement.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10. My romantic partner makes me doubt myself.
11. I do not often worry about being abandoned.
12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes romantic partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.
19. I prefer not to show a partner how I feel deep down.
20. I feel comfortable sharing my private thoughts and feelings with my partner.
21. I find it difficult to allow myself to depend on romantic partners.
22. I am very comfortable being close to romantic partners.
23. I don't feel comfortable opening up to romantic partners.
24. I prefer not to be too close to romantic partners.
25. I get uncomfortable when a romantic partner wants to be very close.
26. I find it relatively easy to get close to my partner.
27. It's not difficult for me to get close to my partner.
28. I usually discuss my problems and concerns with my partner.
29. It helps to turn to my romantic partner in times of need.
30. I tell my partner just about everything.

31. I talk things over with my partner.
32. I am nervous when partners get too close to me.
33. I feel comfortable depending on romantic partners.
34. I find it easy to depend on romantic partners.
35. It's easy for me to be affectionate with my partner.
36. My partner really understands me and my needs.

## Appendix C

Intrusiveness Subscale of the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979)

Below is a list of comments made by people after stressful life events. Please check each item, indicating how frequently these comments were true for you *after the discovery or disclosure of the affair*. If they did not occur during that time, please mark the "not at all" column. **REMEMBER TO ANSWER THESE QUESTIONS REGARDING THE INFIDELITY.**

	Frequency			
	Not At All	Rarely	Sometimes	Often
1. I thought about it when I didn't mean to.				
2. I had trouble falling asleep or staying asleep, because of pictures or thoughts about it that came into my mind.				
3. I had waves of strong feelings about it.				
4. I had dreams about it.				
5. Pictures about it popped into my mind.				
6. Other things kept making me think about it.				
7. Any reminder brought back feelings about it.				

## Appendix D

### The Relationship Attribution Measure (RAM; Fincham & Bardbury, 1992)

Please click on the number that indicates how much you agree or disagree with each statement in regard to your partner's unfaithful behavior, using the rating scale below:

1	2	3	4	5	6
Disagree Strongly	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Agree Strongly

1. My partner's unfaithful behavior was due to something about him/her (e.g. the type of person he/she is, the mood he/she was in).
2. The reason my partner had an affair is not likely to change.
3. The reason my partner was unfaithful is something that affects/affected other areas of our relationship.
4. My partner cheated on me on purpose rather than unintentionally.
5. My partner's unfaithful behavior was motivated by selfish rather than *unselfish* concerns.
6. My partner deserves to be blamed for his/her unfaithful behavior.

## Appendix E

### Affective Empathy Scale (McCullough et al., 1998)

Please rate the extent to which you felt each of the following emotion toward your partner *during the period of time when you and your partner worked/are working on reconciliation*, using the following scale:

	0 Not At All	1	2	3	4	5 Extremely
Empathic						
Concerned						
Moved						
Softhearted						

## Appendix F

### Empathic Understanding (E) Subscale of the Barrett-Lennard Relationship Inventory (RI-Form OS-M-64; Barrett-Lennard, 1978)

Below are listed a variety of ways that one person may feel or behave in relation to another person. Please consider each numbered statement with reference to your present relationship with your partner.

Rate each statement according to how strongly you feel that it is true, or not true, in this relationship, based on the following scale:

-3	-2	-1	+1	+2	+3
<b>NO</b> , I strongly feel that it is not true	No, I feel it is not true	(No) I feel that it is probably untrue, or more untrue than true	(Yes) I feel that it is probably true, or more true than untrue	Yes, I feel it is true	<b>YES</b> , I strongly feel that it is true

1. My partner wants to understand how I see things.
2. My partner may understand my words but he/she does not see the way I feel. (R)
3. My partner nearly always knows exactly what I mean.
4. My partner looks at what I do from his/her own point of view. (R)
5. My partner usually sense or realizes what I am feeling.
6. My partner's own attitudes toward things I do or say prevent him/her from understanding me. (R)
7. My partner thinks that *I* feel a certain way, because that's the way *he/she* feels. (R)
8. My partner realizes what I mean even when I have difficulty in saying it.
9. My partner usually understands the whole of what I mean.
10. My partner takes no notice of some things I think or feel. (R)
11. My partner appreciates exactly how the things I experience feel to me.
12. At times my partner thinks that I feel a lot more strongly about a particular thing than I really do. (R)
13. My partner does not realize how sensitive I am about some things we discuss. (R)
14. My partner understands me.
15. My partner's response to me is usually so fixed and automatic that I don't get through to him/her. (R)
16. When I am hurt or upset my partner can recognize my feelings exactly, without becoming upset him/herself.

\*R = reversed score

## Appendix G

The Marital Offense-Specific Forgiveness Scale (MOFS; Paleari, Regalia, & Fincham, 2009)

Each of the following statements describes possible feelings, thoughts, and behaviors you might currently experience in response to the infidelity. Please indicate the extent to which you agree or disagree with each statement by using the rating scale below.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1. Since my partner cheated on me, I have been less willing to talk to her/him.
2. Although she/he hurt me, I definitely put what happened aside so that we could resume our relationship.
3. Since my partner had an affair(s), I get annoyed with him/her more easily.
4. I make my partner feel guilty for her/his unfaithful behavior.
5. Since my partner had an affair(s), I have done my best to restore my relationship with her/him.
6. I would like to cheat on my partner in the same way that she/he cheated on me.
7. Because of the infidelity, I find it difficult to be loving toward her/him.
8. I still hold some grudge against my partner because of what she/he did.
9. I forgave my partner completely, thoroughly.
10. I soon forgave my partner.



## Appendix H

The Hopkins Symptom Checklist – 21 (HSCL-21; Green, Walkey, McCormick, & Taylor, 1988)

INSTRUCTIONS: How have you felt during the past seven days including today? Use the following scale to describe how distressing you have found these things over this time.

Not at all	A little	Quite a bit	Extremely
1	2	3	4

1. Difficulty in speaking when you are excited
2. Trouble remembering things
3. Worried about sloppiness or carelessness
4. Blaming yourself for things
5. Pains in the lower part of your back
6. Feeling lonely
7. Feeling blue
8. Your feelings being easily hurt
9. Feeling others do not understand you or are unsympathetic
10. Feeling that people are unfriendly or dislike you
11. Having to do things very slowly in order to be sure you are doing them right
12. Feeling inferior to others
13. Soreness of your muscles
14. Having to check and double-check what you do
15. Hot or cold spells
16. Your mind going blank
17. Numbness or tingling in parts of your body
18. A lump in your throat
19. Trouble concentrating
20. Weakness in parts of your body
21. Heavy feelings in your arms and legs

Appendix I

The Dyadic Adjustment Scale (DAS; Spanier, 1976)

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	<i>All The Time</i>	<i>Most of The Time</i>	<i>More Often Than Not</i>	<i>Occa- sionally</i>	<i>Rarely</i>	<i>Never</i>
16) How often do you discuss or have you considered divorce, separation, or terminating your relationship?	0	1	2	3	4	5
17) How often do you or your mate leave the house after a fight?	0	1	2	3	4	5
18) In general, how often do you think that things between you and your partner are going well?	5	4	3	2	1	0
19) Do you confide in your mate?	5	4	3	2	1	0
20) Do you ever regret that you married? (or lived together)	0	1	2	3	4	5
21) How often do you and your partner quarrel?	0	1	2	3	4	5
22) How often do you and your mate "get on each other's nerves?"	0	1	2	3	4	5
		<i>Every Day</i>	<i>Almost Every Day</i>	<i>Occa- sionally</i>	<i>Rarely</i>	<i>Never</i>
23) Do you kiss your mate?		4	3	2	1	0


31) The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.

0	1	2	3	4	5	6
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

32) Which of the following statements best describes how you feel about the future of your relationship?

  5   I want desperately for my relationship to succeed, and *would go to almost any length* to see that it does.

  4   I want very much for my relationship to succeed, and *will do all I can* to see that it does.

  3   I want very much for my relationship to succeed, and *will do my fair share* to see that it does.

  2   It would be nice if my relationship succeeded, but I *can't do much more than I am doing now* to help it succeed.

  1   It would be nice if it succeeded, but I *refuse to do any more than I am doing now* to keep the relationship going.

  0   My relationship can never succeed, and *there is no more than I can do* to keep the relationship going.

## Appendix J

### Trust Scale (Rempel, Holmes, & Zanna, 1985)

INSTRUCTIONS: Using the 7-point scale shown below, indicate the extent to which you agree or disagree with the following statements as they relate to your partner. Place your rating in the box to the right of the statement.

- |     | Strongly<br>Disagree  |                          | -2 | -1 | Neutral | 0 | 1 | 2 | 3 | Strongly<br>Agree |   |
|-----|---|--------------------------|----|----|---------|---|---|---|---|-------------------|---|
| 1.  | My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening.               | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | D |
| 2.  | Even when I don't know how my partner will react, I feel comfortable telling him/her anything about myself, even those things of which I am ashamed.  | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | F |
| 3.  | Though times may change and the future is uncertain, I know my partner will always be ready and willing to offer me strength and support.             | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | F |
| 4.  | I am never certain that my partner won't do something that I dislike or will embarrass me.  | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | P |
| 5.  | My partner is very unpredictable. I never know how he/she is going to act from one day to the next.   | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | P |
| 6.  | I feel very uncomfortable when my partner has to make decisions which will affect me personally.  | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | P |
| 7.  | I have found that my partner is unusually dependable, especially when it comes to things which are important to me.                                   | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | D |
| 8.  | My partner behaves in a very consistent manner.   | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | P |
| 9.  | Whenever we have to make an important decision in a situation we have never encountered before, I know my partner will be concerned about my welfare. | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | F |
| 10. | Even if I have no reason to expect my partner to share things with me, I still feel certain that he/she will.   | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | F |
| 11. | I can rely on my partner to react in a positive way when I expose my weaknesses to him/her.   | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | F |
| 12. | When I share my problems with my partner, I know he/she will respond in a loving way even before I say anything.                                      | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | F |
| 13. | I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught.               | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | D |
| 14. | I sometimes avoid my partner because he/she is unpredictable and I fear saying or doing something which might create conflict.                        | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | P |
| 15. | I can rely on my partner to keep the promises he/she makes to me.   | <input type="checkbox"/> |    |    |         |   |   |   |   |                   | D |

16. When I am with my partner, I feel secure in facing unknown new situations.  F
17. Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth.  D

## Appendix K

### Solicitation Message (Internet Posting)

Can you spare a few moments to take my survey?  
[link to survey]

You are **ONLY** eligible to participate if you are currently in a committed relationship and your romantic partner has previously committed an infidelity (i.e. **emotional affair, sexual affair, or both**) during the course of your relationship. You must be (a) 18 years of age or older, (b) proficient in English language, (c) currently still in the relationship where the infidelity took place, and (d) the disclosure or discovery of the affair must have taken place **at least 6 months but less than 5 years ago**. It is a research study that examines the recovery process from infidelity. Upon completion of the study, you are eligible to enter a raffle drawing for 10 Amazon e-gift cards worth \$50 each as compensation for your time. Also, please consider forwarding this survey to your friends who meet the above criteria. I appreciate your help in advance!

Many thanks,  
G Wei Ng  
UMKC Counseling Psychology Doctoral Candidate

## Appendix L

### Informed Consent

Dear potential participant,

My name is G Wei Ng, and I am a Counseling Psychology doctoral candidate at the University of Missouri-Kansas City. You are invited to participate in my research study examining the process of recovery following the disclosure or discovery of infidelity. This study has been approved by the UMKC Social Science Institutional Review Board.

You will be asked to complete a few questionnaires, which should take approximately 30-45 minutes. There will be no identifying information asked of you on any part of the survey, so your responses are completely anonymous and confidential. If you choose to participate in this study, you are free to withdraw at any time, even after you have started on the survey. The results of this study will be presented only in aggregated forms, and cannot be identified individually.

**In order to participate, you must be (a) 18 years of age or older, (b) proficient in English language, (c) currently still in a committed relationship with a partner who had committed either *emotional-only*, *sexual-only*, or *combined type* of infidelity during the course of your relationship, and (d) the disclosure or discovery of infidelity took place at least six months but less than five years before the time of participation in this study.**

If you complete this survey, you will be eligible to enter your contact information to receive one of 10 \$50 Amazon.com e-gift cards. A link will take you to a separate page where you can enter your contact information. Your contact information will in no way be connected to your responses.

While there are no direct benefits to participating in this study, the information acquired from this study will help to extend knowledge regarding factors that contribute to recovery from affair which have important implication for clinical practice. There are no serious known or anticipated risks associated with this study. However, participants may experience distress while answering questions that might evoke unpleasant memories of infidelity. If you experience any concerns as a result of participating in this study, please contact me at [gnxqc@mail.umkc.edu](mailto:gnxqc@mail.umkc.edu) and/or my faculty advisor, Dr. Nancy Murdock at [murdockn@umkc.edu](mailto:murdockn@umkc.edu). If you are interested in seeking counseling services to talk about infidelity-related grievances, please refer to the link below to learn more about psychotherapy and find a psychologist near you: <http://www.apa.org/topics/therapy/index.aspx>

If you have any questions about this study, you can email me at: [gnxqc@mail.umkc.edu](mailto:gnxqc@mail.umkc.edu). If you are interested in participating, please click on the link below and follow the directions on the first page.

**Clicking below indicates that I have read the description of the study, and I agree to participate.**

I Agree    I Do Not Agree

Thank you for your help!

Sincerely,

Principal Investigator:  
G Wei Ng, M.A.  
Counseling Psychology Doctoral Candidate  
University of Missouri-Kansas City  
[gnxqc@mail.umkc.edu](mailto:gnxqc@mail.umkc.edu)

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Professor  
University of Missouri-Kansas City  
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## Appendix M

### Incentive Form

*(This page will appear when participants have completed the survey)*

#### **Raffle Page**

As a ‘thank you’ for your participation, you are eligible to receive one of ten \$50 Amazon e-gift cards. If you are interested in entering the raffle, the link below will take you to a separate page where you can enter your e-mail address. Winners will be selected at random and receive their gift card via e-mail.

Your contact information will not be connected to your survey responses, and record of your e-mail address will be destroyed once winners are chosen and e-gift cards are sent.

Thank you!

<Link to separate survey where participants put in mailing information>

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## VITA

G Wei Ng was born on December 17, 1984 in Penang, Malaysia. She completed her elementary and high school education in Malaysia before moving to the United States for undergraduate studies in December 2003. Ms. Ng next completed her Bachelor of Arts in Psychology with a minor in Sociology at University of Nebraska-Lincoln in 2006, graduating with High Distinction. Throughout her undergraduate career, she was on Dean's List for five consecutive semesters, recognized as High and Superior Scholar in 2005 and 2006, and was inducted into multiple Honor Societies in her alma mater.

Shortly after graduation, Ms. Ng worked as a mental health aide at a state psychiatric inpatient facility in Kansas City, Kansas. She attended University of Missouri-Kansas City (UMKC) for her Master's degree in counseling in 2009 and applied for, and later accepted into the Ph.D. in Counseling Psychology program at UMKC in 2011. She received her M.A. in Counseling and Guidance (General Emphasis) from UMKC in May 2013. For her clinical practicums at UMKC, Ms. Ng worked as a therapist trainee at Community Counseling and Assessment Services (CCAS), the UMKC Counseling Center, a community mental health center, Center for Behavioral Medicine, and William Jewell College Counseling Center. She also worked as an Assessment Specialist at CCAS in 2014. Ms. Ng completed her pre-doctoral internship at Towson University Counseling Center (APA-accredited site) in 2017 and has since stayed at TUCC as a post-internship fellow (2017-2018) and a full-time staff clinician since Fall 2018. Ms. Ng currently serves as the Diversity Coordinator of TUCC, providing leadership in various diversity initiatives of the center and overseeing multicultural training for staff and trainees. In addition, she also provides clinical services for TU students and staff, supervises doctoral interns and externs, and manages a peer education program.