

The effects of adult attachment style on post-transgression response

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Abstract

Two studies examined the relation between adult attachment styles and post-transgression responses. Secure participants were predicted to be forgiving, preoccupied participants to be grudge oriented, fearful participants to be avoidant, and dismissing participants to be vengeful. Study 1 was nonexperimental, using a community sample of adults ($N = 565$). Participants wrote about a moderately severe past transgression. Results supported the predictions. In Study 2, undergraduates' ($N = 134$) attachment styles were manipulated by varying working models of self and other. Model of self was manipulated with false performance feedback. Model of other was manipulated by altering a confederate's availability and responsiveness during a bonding exercise. Response trends replicated Study 1 with the exception of avoidance. Dismissing individuals were the most avoidant.

Developing and maintaining interpersonal relationships is one of the most effective ways of satisfying social needs. However, in the process of doing so, individuals commit costly transgressions that jeopardize relationships and harm victims (MacDonald & Leary, 2005). Transgressions are negative events that occur when one person hurts another, such as interpersonal rejection, infidelity, or treating others unfairly (Eaton & Struthers, 2006; Fincham,

2000; Heider, 1958). Transgressions create conflict and can represent serious threat to all types of relationships, ranging from romantic to organizational.

The impact of committing transgressions and the importance of interpersonal relationships creates the dilemma of maintaining social bonds while protecting oneself from transgressions (McCullough, Kurzban, & Tabak, 2013). Fortunately, there are numerous ways to repair relationships damaged by transgressions. Forgiveness is one option that occurs when victims let go of and replace negative sentiment toward transgressors with positive sentiment (Struthers, Eaton, Santelli, Uchiyama, & Shirvani, 2008). Despite its value for maintaining desired relationships, victims often find forgiving difficult and may opt for alternate post-transgression responses, including holding a grudge, seeking revenge against, or avoiding the transgressor. Although these three unforgiving responses may protect victims, they can be dysfunctional and contribute to estrangement and conflict escalation (Fischer, 2011; Kim & Smith, 1993). As such,

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it is important to better understand factors that promote or prevent forgiving versus unforgiving responses. Specifically, this research examined how victims' attachment styles might impact their responses to transgressions.

Adult attachment refers to unique affectional bonds between two individuals (Hazan & Shaver, 1987), affecting a wide range of relationships, including romantic relationships, friendships, and parent-child relationships. It is particularly important with regard to transgressions because they represent the types of threat that activate the attachment system (Bretherton, 1985). In particular, engaging in certain post-transgression responses has been linked to individuals' specific adult attachment styles (Burnette, Taylor, Worthington, & Forsyth, 2007; Kachadourian, Fincham, & Davila, 2004; Lawler-Row, Hyatt-Edwards, Wuensch, & Karremans, 2011; Mikulincer, Shaver, & Slav, 2006; Wang, 2008; Yarnoz Yaben, 2009).

Adult attachment

Four adult attachment styles derive from combining individuals' working models of themselves and working models of an attachment figure (Bartholomew & Horowitz, 1991). These working models help organize past experiences and impact individuals' interpretation of events (Collins, Cooper, Albino, & Allard, 2002). Those with positive models of self believe they are worthy of love and affection, whereas those with negative models of self believe they are unworthy. A positive model of other reflects belief in attachment figures' availability and responsiveness, whereas a negative model of other indicates perceptions of attachment figures' unavailability and lack of responsiveness (Bowlby, 1973; Feeney & Noller, 1996). The resultant attachment styles can be broadly classified as secure or insecure (preoccupied, fearful, dismissing), each characterized by specific features.

Secure attachment

Secure attachment is derived from positive working models of self and other (Bartholomew & Horowitz, 1991). Secure

adults are typically self-confident and warm, with relationships defined by intimacy, autonomy, trust, and commitment (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Webb, Call, Chickering, Colburn, & Heisler, 2006; Welch & Houser, 2010). They also report greater relationship satisfaction than insecurely attached individuals (Banse, 2004; Pistole, 1989; Stackert & Bursik, 2003).

Preoccupied attachment

Preoccupied individuals have a negative working model of self and a positive working model of other (Bartholomew & Horowitz, 1991). Because of beliefs about their unworthiness, they constantly seek others' approval (Webb et al., 2006). Preoccupied attachment can manifest in all-or-nothing approaches to relationships, including obsessive preoccupations (Hazan & Shaver, 1987) that lead to rumination (Burnette, Davis, Green, Worthington, & Bradfield, 2009; Burnette et al., 2007). This can incite volatility, exemplified by lack of trust in attachment figure availability, and fear of rejection (Davila, Steinberg, Kachadourian, Cobb, & Fincham, 2004; Feeney & Noller, 1990).

Fearful attachment

Individuals with fearful attachment styles have negative models of self and other (Bartholomew & Horowitz, 1991). They feel unworthy, but avoid intimacy via withdrawal and isolation (Davila et al., 2004), due to fear of rejection (Webb et al., 2006). Fearful individuals lack assertiveness and tend to assume a subservient role in relationships. They can be socially inhibited, with relationship problems derived from passivity (Bartholomew & Horowitz, 1991). Fearful attachment is also associated with low relationship satisfaction and support, and high disconnection (Li & Chan, 2012).

Dismissing attachment

Dismissing individuals have a positive model of self and negative model of other (Bartholomew & Horowitz, 1991). They devalue interpersonal closeness and often lack empathy (Bartholomew & Horowitz, 1991;

Sonnby-Borgstrom & Jonsson, 2004; Webb et al., 2006), while exhibiting a tendency to be narcissistic (Brennan & Morris, 1997; Gjerde, Onishi, & Carlson, 2004). Downplaying interest in close relationships may be a defensive strategy to avoid negative social interaction and emotions, such as feelings of rejection, interpersonal dependency, and vulnerability (Muller, 2009, 2010). Dismissing individuals do this by minimizing the importance of others (Bartholomew & Horowitz, 1991), and devaluing feelings that contradict perceptions of themselves as strong, competent, and self-sufficient.

Post-transgression responses

Given that transgressions are threatening and the attachment system helps individuals cope with threat, attachment style should impact how people respond to transgressions. In the following studies, we focused on four common post-transgression responses: forgiving, holding a grudge, seeking revenge, and avoiding.

Forgiveness

Immediate reactions to transgressions are often derived from victims' self-protective instincts to retaliate or avoid transgressors (Gottman, 1994; McCullough, Worthington, & Rachal, 1997). Forgiveness only occurs when victims forgo personally beneficial, but relationship-destructive, responses in favor of relationship-constructive responses (McCullough et al., 1997). Forgiving has positive effects for victims, transgressors, and relationships, and facilitates closeness and satisfaction, prorelationship responses, intimacy, and commitment (Paleari, Regalia, & Fincham, 2010).

Grudge

Grudges refer to feelings of resentment or ill-will. When holding a grudge, an individual stays in the victim role and ruminates about the transgression, which can increase anger and aggression (Bushman, 2002). Although grudges can be costly (Witvliet, Ludwig, & Laan, 2001), they are thought to have some advantages for victims, such as protection

against future transgressions, claiming rewards or benefits, and inducing a sense of control (Baumeister, Exline, & Sommer, 1998).

Revenge

Revenge can be hostile or instrumental (Schmid, 2005). Hostile revenge is reactive with the intention to hurt the transgressor, whereas instrumental revenge is retributive, with the intention of teaching a lesson. Revenge has traditionally been conceptualized as behavioral, but this discounts its independent psychological component, desire for vengeance (Schmid, 2005). If one lacks opportunity or resources, he or she may experience a desire for vengeance without attempting to avenge oneself. Despite its potential efficacy in addressing social problems (McCullough, 2008) and deterring future offenses (Boon, Alibhai, & Deveau, 2011), seeking revenge can be maladaptive (McCullough, 2008). Its most important drawback is the harm done to the relationship between avenger and transgressor (Boon et al., 2011; Deveau, 2006).

Avoidance

The underlying motive behind avoidance is based on anger and retaliation (Barnes, Brown, & Osterman, 2009), as well as self-protection, relationship protection, and conflict minimization (Caughlin & Golish, 2002). Avoiding allows victims to protect themselves from offenders and provides a break for victims to process their thoughts and feelings (Barnes et al., 2009). Despite similarities with other post-transgression responses, particularly revenge, it is a distinct response (Barnes et al., 2009; Koutsos, Wertheim, & Kornblum, 2008; McCullough et al., 1997). Unlike revenge, avoidance is not the result of directed cognition aimed at actively evening the score. Avoidance is also distinct from holding a grudge, because it does not involve the same commitment to fostering negative emotions. However, like revenge and grudge, prolonged avoidance can cause relationship disintegration.

Attachment and post-transgression responses

Given the implications of the different post-transgression responses in the repair

of damaged relationships, determining why certain individuals choose specific responses is important. Adult attachment styles may offer one explanation.

Secure attachment

Secure individuals are typically satisfied with their relationships and want to maintain them (Feeney, 1996; Hammond & Fletcher, 1991; Lowyck, Luyten, Demyttenaere, & Corveleyn, 2008); therefore, they should be inclined to forgive transgressors. Security is also positively related to trust, which is linked to forgiveness (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; McCullough et al., 1997; Molden & Finkel, 2010; Webb et al., 2006). These factors comprise, in part, positive models of self and other, creating an optimal framework for forgiveness. Positive evaluation of others should facilitate replacing negative, transgression-induced sentiment with positive sentiment following a transgression. In contrast, holding a grudge, seeking revenge, and avoiding are inconsistent with secure individuals' experience of relationship satisfaction, trust, and desire to maintain relationships.

Hypothesis 1: Secure individuals will be more likely to forgive than the other three adult attachment styles (preoccupied, fearful, dismissing).

Hypothesis 2: Secure individuals will be more likely to forgive than engage in the other three post-transgression responses (grudge, revenge, avoidance).

Preoccupied attachment

Rumination entails perpetually recounting past experiences and accompanying negative affect (Witvliet & McCullough, 2007), which is central to holding a grudge. Given the tendency of preoccupied individuals to ruminate (Burnette et al., 2007), they should also be likely to hold grudges. Rumination is negatively associated with forgiveness (Kachadourian et al., 2004; McCullough, Bono, & Root, 2007; Paleari, Regalia, & Fincham, 2005); thus, they should be less likely to forgive than hold a grudge. Seeking revenge is unlikely,

because it risks upsetting one's partner, fueling fear of abandonment. Preoccupied individuals should also be averse to avoiding, because it conflicts with their desire for closeness and reassurance, which should be bolstered after a transgression.

Hypothesis 3: Preoccupied individuals will be more likely to hold a grudge than the other three adult attachment styles (secure, fearful, dismissing).

Hypothesis 4: Preoccupied individuals will be more likely to hold a grudge than engage in the other three post-transgression responses (forgiveness, revenge, avoidance).

Fearful attachment

Fearful individuals do not trust attachment figures to be available and responsive to their needs, decreasing their likelihood of turning to them after a transgression. Rather, they should be more inclined to avoid as a way of isolating themselves and suppressing negative emotions. Accordingly, past studies have found that fearful attachment is related to desire for interpersonal distance (Kaitz, Bar-Haim, Lehrer, & Grossman, 2004). Forgiving is unlikely, because their negative model of other should impede replacing negative sentiment experienced after a transgression with positive sentiment. Additionally, because the transgression aligns with their negative expectations of others, holding grudges should be unlikely. Finally, because fearful individuals lack self-confidence, assertiveness (Bartholomew & Horowitz, 1991) and social self-efficacy (Li, Lin, & Hsiu, 2011), seeking revenge is implausible.

Hypothesis 5: Fearful individuals will be more likely to avoid than the other three adult attachment styles (secure, preoccupied, dismissing).

Hypothesis 6: Fearful individuals will be more likely to avoid than engage in the other three post-transgression responses (forgiveness, grudge, revenge).

Dismissing attachment

Transgressions devalue victims and diminish self-esteem (Scobie & Scobie, 1998); therefore, seeking revenge may be a means of self-esteem restoration, particularly for dismissing individuals who tend to be more narcissistic (Brown, 2004; Exline, Bushman, Baumeister, Campbell, & Finkel, 2004; McCann & Biaggio, 1989; McCullough, Bellah, Kilpatrick, & Johnson, 2001; Twenge & Campbell, 2003). Narcissism is linked to aggression proneness when self-views are threatened (Bushman & Baumeister, 1998). Also, lack of interest in relationships should promote willingness to risk relationship harm in favor of restoring damaged self-esteem. Additionally, this negative approach to relationships (Bartholomew & Horowitz, 1991; Webb et al., 2006) and dismissing individuals' lack of empathy (Welch & Houser, 2010) should inhibit replacing negative sentiment with positive after a transgression, thus impeding forgiveness. Furthermore, because holding a grudge is detrimental to the grudge holder, they should be reluctant to do so. Finally, dismissing individuals should be unlikely to avoid because avoidance requires concerted effort they should be unwilling to expend.

Hypothesis 7: Dismissing individuals will be more likely to seek revenge than the other three adult attachment styles (secure, preoccupied, fearful).

Hypothesis 8: Dismissing individuals will be more likely to seek revenge than engage in the other three post-transgression responses (forgiveness, grudge, avoidance).

Overview of research

Studies have associated attachment security with forgiveness and attachment insecurity with lack of forgiveness (Burnette et al., 2009; Lawler-Row, Younger, Piferi, & Jones, 2006; Mikulincer et al., 2006; Webb et al., 2006; Younger, Piferi, Jobe, & Lawler, 2004). However, few studies have specifically focused on unforgiving responses or insecure attachment styles. Exploring a broader range of outcomes is important because there are considerable

differences between insecure attachment styles and unforgiving responses. Thus, the purpose of this research was to examine how adult attachment relates to post-transgression responding, particularly insecure attachment and unforgiving responses. The first study tested the relation between the four adult attachment styles and four post-transgression responses, and the second study investigated the causal link by manipulating victims' working models of self and other and randomly assigning participants to one of the four attachment style conditions.

Study 1

The purpose of Study 1 was to establish a relation between adult attachment styles and post-transgression responses. A unique post-transgression response trend was predicted for each attachment style.

Method

Participants

Students taking an advanced psychology course were given a URL to the survey material and were instructed to pass the URL on to two nonstudent adults—one male and one female. In exchange for their participation, participants' names were entered into one of two drawings for \$100. The total sample was 565 participants ($M_{\text{age}} = 30$, $SD = 12.30$) composed of 334 females and 231 males. Thirty-eight percent were North American, 3.2% South American, 12% European, 14.4% East Asian, 8.9% Middle Eastern, 12.2% South Asian, 2.6% African, 4.8% of mixed ethnicity, and 3.5% undisclosed. In terms of attachment style, 42% of participants reported being securely attached, 14% indicated that they had a preoccupied attachment style, 25% reported a fearful attachment style, and 19% reported a dismissing attachment style.

Measures

Relationship questionnaire. The Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991) measures participants' attachment styles. It is a forced-choice questionnaire

in which participants are given a paragraph description of each of the four adult attachment styles and choose which one describes them best. They then rate, on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*), how well each paragraph describes them. A review of 25 attachment measures demonstrated that this questionnaire is one of 10 self-report measures with acceptable reliability and validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010).

Transgression. Participants were instructed to write about a past transgression that had a moderate to serious impact on them. Reported relationships with the transgressor included friend (32%), significant other (12%), coworker (24%), family member (19%), acquaintance (7%), and stranger (7%). The most commonly reported transgressions were infidelity, hurt feelings, bullying, being let down by someone, being disrespected, being treated unfairly, and being rejected.

Post-transgression response items. All items were rated on a 7-point scale (1 = *not at all*, 7 = *very much so*). Five items were used to evaluate forgiveness ($\alpha = .84$), for example, "How favorable do you feel toward the transgressor?" Grudge was measured with six items ($\alpha = .74$), for example, "I found myself replaying the negative event over and over in my mind." Revenge and avoidance were measured using items from the Transgression Related Interpersonal Motivation Scale (TRIM; McCullough et al., 1997). Specifically, revenge was assessed with five items ($\alpha = .82$; e.g., "To what extent did you plan on getting back at the transgressor?"). Finally, avoidance was measured with four items ($\alpha = .80$; e.g., "To what extent did you withdraw from the transgressor after the transgression?"; Eaton & Struthers, 2006).

Procedure

Participants were linked to an online survey. After completing the first part of the survey in which attachment was measured, they were instructed to write about the transgression. Next, they were given a questionnaire containing the post-transgression response items.

When finished, the participants were thanked and linked to a debriefing.

Results

Overall, participants rated the transgressions they reported as somewhat severe ($M = 5.02$, $SD = 1.58$) and as having had a moderate impact on them ($M = 5.37$, $SD = 1.62$). Attachment style did not predict participants' interpretation of the severity of the transgression, $F(3, 561) = 0.17$, $p = .91$, or how much it impacted them, $F(3, 556) = 1.25$, $p = .29$. There was also no reported difference in relationships to the transgressor as a function of attachment style, $\chi^2(15, N = 500) = 17.07$, $p = .31$. Regarding how long ago the transgression occurred, 23.5% of participants reported that it had occurred in the past month, 58% between 2 and 6 months ago, and 18.5% reported that it occurred over 6 months ago.

A significant 4×4 (attachment by post-transgression response) mixed model interaction was found. Individuals with specific attachment styles were inclined to specific post-transgression responses, $F(9, 1683) = 4.11$, $p < .01$. All the predicted trends were supported (see Table 1).

When analyzing the relation between attachment and post-transgression responses, the within-attachment style predictions were based on the idea that each post-transgression response would be uniquely linked to one attachment style. Because of this, we collapsed across the three attachment styles that were not of primary interest and compared their combined means to the mean of the primary attachment style for each post-transgression response. The same approach was used for analyzing the link between each attachment style and all four post-transgression responses. The primary response of interest was compared to the combination of the other three responses.

Secure attachment

Hypothesis 1 was supported. Secure participants ($M = 3.77$, $SD = 1.58$) were more forgiving than the other three attachment styles ($M = 3.46$, $SD = 1.51$), $t(497) = 2.92$, $p < .01$. However, Hypothesis 2, which predicted

Table 1. Study 1 post-transgression response means and standard deviations by attachment style

	Forgive		Grudge		Revenge		Avoidance	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secure	3.77	1.58	3.94	1.32	3.07	1.49	4.68	1.62
Preoccupied	3.64	1.55	4.53	1.10	3.26	1.45	4.60	1.42
Fearful	3.28	1.55	4.30	1.23	3.25	1.36	4.97	1.52
Dismissing	3.44	1.44	3.94	1.25	3.47	1.56	4.61	1.68

that secure individuals would be more likely to forgive ($M = 3.77$, $SD = 1.58$) than to hold a grudge, seek revenge against, or avoid transgressors ($M = 3.89$, $SD = 1.07$) was not supported, $t(237) = -0.98$, $p = .33$.

An additional follow-up analysis was conducted to determine if the difference between forgiving and engaging in the other three post-transgression responses was smaller for secure participants than the other attachment styles. If smaller, this would indicate that secure participants were more forgiving than the other three attachment styles, despite all styles being more unforgiving than forgiving overall. Mean difference values were determined by subtracting the average of the three nondominant predicted responses from the average of the predicted dominant response for each attachment style (see Table 2). For instance, when looking at forgiveness, the mean of combined grudge, revenge, and avoidance was subtracted from the forgiveness mean. In support of the hypothesis, there was a smaller difference for secure participants ($M = -0.12$, $SD = 1.90$) than preoccupied, fearful, and dismissing participants combined ($M = -0.65$, $SD = 1.91$), $t(514) = 4.51$, $p < .01$, indicating greater overall forgiveness.

Preoccupied attachment

Hypothesis 3 was supported. Preoccupied individuals ($M = 4.53$, $SD = 1.10$) were more likely to hold a grudge than individuals of the other three attachment styles ($M = 4.06$, $SD = 1.28$), $t(117) = 3.67$, $p < .01$. Hypothesis 4 was also supported. Preoccupied individuals were more likely to hold a grudge ($M = 4.53$, $SD = 1.10$) than engage in the other three post-transgression responses ($M = 3.83$, $SD = 0.84$), $t(79) = 5.55$, $p < .01$.

Table 2. Study 1 difference means and standard deviations

	DIFF1		DIFF3	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secure	-0.12	1.90	-1.06	1.57
Preoccupied	-0.49	1.87	-1.00	1.52
Fearful	-0.89	1.92	-0.94	1.44
Dismissing	-0.56	1.95	-0.53	1.62

Note. DIFF1 = forgiveness mean minus collective grudge, revenge, and avoidance mean; DIFF3 = revenge mean minus collective forgiveness, grudge, and avoidance mean.

Fearful attachment

Hypothesis 5 predicted that fearful participants ($M = 4.98$, $SD = 1.52$) would be more avoidant than secure, preoccupied, and dismissing participants ($M = 4.63$, $SD = 1.57$). This was supported, $t(241) = 2.89$, $p < .01$. Hypothesis 6 was also supported, with fearful participants ($M = 4.98$, $SD = 1.52$) more likely to avoid transgressors than engage in the other three responses ($M = 3.63$, $SD = 0.89$), $t(138) = 9.70$, $p < .01$.

Dismissing attachment

As predicted by Hypothesis 7, dismissing participants ($M = 3.47$, $SD = 1.56$) were more vengeful than the other three attachment styles ($M = 3.19$, $SD = 1.43$), $t(152) = 2.15$, $p = .03$. However, Hypothesis 8, which predicted that dismissing participants would be more likely to seek revenge than forgive, hold a grudge, or avoid, was not supported. Dismissing participants were actually significantly less likely to seek revenge ($M = 3.47$, $SD = 1.56$) than to engage in the other three post-transgression

responses ($M = 4.00$, $SD = 0.97$), $t(107) = -3.41$, $p < .01$. However, another follow-up analysis comparing the magnitude of difference between likelihood of revenge versus forgiving, holding a grudge, and avoiding was conducted (see Table 2). The mean of combined forgiveness, grudge, and avoidance was subtracted from the mean of revenge. Although all participants were significantly less likely to seek revenge than engage in the other three responses, the difference between revenge and collapsed forgiveness, grudge, and avoidance was smallest for dismissing participants ($M = -0.53$, $SD = 1.62$) when compared to secure, preoccupied, and fearful participants combined ($M = -1.00$, $SD = 1.51$), $t(154) = 3.47$, $p < .01$ (see Table 2). A smaller difference supports the hypothesis that dismissing participants are more vengeful than secure, preoccupied, and fearful participants, even though all participants reported low vengefulness.

Discussion

This study established a relation between trait adult attachment style and individuals' inclination to forgive, hold a grudge, seek revenge, or avoid after a transgression. The hypotheses were largely supported. Between attachment styles, all hypotheses were supported. Secure participants were more forgiving, preoccupied participants were more likely to hold a grudge, fearful participants were more likely to avoid, and dismissing participants were more likely to seek revenge than the other three attachment styles. In terms of within-attachment style differences in post-transgression responses, preoccupied participants reported more grudge holding and fearful participants reported more avoidance than the other three post-transgression responses.

Although the mean difference between forgiveness and the other three post-transgression responses was not significant for secure participants, the magnitude of the difference was significantly greater for secure participants than preoccupied, fearful, and dismissing participants. This larger discrepancy suggests that secure participants were more forgiving than insecure participants. Specifically, the difference between forgiveness and unforgiveness

was significantly lower for secure participants when compared to fearful and dismissing participants, but not when compared to preoccupied participants. This could be because preoccupied individuals are also inclined to forgive. They tend to be needy and fear abandonment (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998), which are strong motivators to maintain relationships. This can be accomplished by forgiving. Philosophers have diverging opinions on whether forgiving is evidence of strength or weakness of character. Gandhi (1931) believed it indicated strength, whereas Nietzsche (1887) alluded to it indicating weakness. These results support both positions. Secure individuals are showing strength when they forgive, whereas preoccupied individuals are doing so more out of fear or weakness.

Contrary to Hypothesis 8, the mean difference between vengefulness and the other responses actually showed that dismissing individuals were significantly less likely to desire vengeance than to forgive, hold a grudge, and avoid. However, similar to the results for forgiveness, with regard to revenge the magnitude of the difference was significantly smaller for dismissing individuals than secure, preoccupied, or fearful individuals, again supporting the hypothesis that dismissing individuals would be more vengeful than secure, preoccupied, and fearful participants.

Study 2

In Study 2, we manipulated individuals' attachment styles to determine if adult attachment has a causal role in post-transgression responding. Attachment has typically been conceptualized as a relatively stable way of relating to others; however, there has been growing interest in how it can be influenced by contextual factors (Gillath, Hart, Nofhle, & Stockdale, 2009).

Previous studies have had success influencing attachment by priming relationship schemas (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993; Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Gillath et al., 2009). This suggests that attachment can be altered by present cognition. This alteration

overrides trait attachment so that perceptions, expectations, and behaviors temporarily shift (Gillath & Shaver, 2007; Gillath et al., 2009). These changes can be conceptualized as due to *state* rather than *trait* attachment (Gillath et al., 2009).

In this study, rather than implementing a priming technique, attachment was manipulated by influencing the development of working models of self and other within the early stages of a relationship between participants and a confederate. Altering model of self occurred during a rigged word search game, and model of other was manipulated during a closeness-building exercise.

Participants in the secure condition had an available and responsive partner during the closeness-building exercise, and received positive word search performance feedback in relation to their partner to induce positive models of self and other and secure attachment. Participants in the preoccupied condition also had an available and responsive partner, but received negative performance feedback in relation to their partner, which induced a negative model of self and a positive model of other, and resultant preoccupied attachment. Participants in the fearful condition had an unavailable and nonresponsive partner, and received negative performance feedback to induce negative models of self and other, and a fearful attachment style. Finally, participants in the dismissing condition had an unavailable and nonresponsive partner, and received positive performance feedback to induce a positive model of self and negative model of other and a dismissing attachment style. After manipulating attachment, the confederate transgressed against participants.

Method

Participants

Introductory Psychology (PSYCH 1010) students participated in this study ($N = 134$). There were 102 females and 31 males ($M_{\text{age}} = 20.5$, $SD = 3.58$). They were recruited from the Undergraduate Research Participant Pool and received course credit for participating. They were also entered into a \$100 drawing. Demographically, 52% of participants were North

American, 6.5% were East Asian, 18% were Middle Eastern, 6% were South Asian, and 17.5% did not report their ethnicity. Participants were each randomly assigned to one of the four conditions, with the breakdown as follows: 33 participants in the secure, fearful, and dismissing conditions, and 35 participants in the preoccupied condition. Baseline attachment style frequencies were reported as such: 68 secure participants (52.3%), 15 preoccupied participants (11.5%), 21 fearful participants (16.2%), and 23 dismissing participants (17.7%).

Measures

Model of self-manipulation. Model of self was manipulated by giving participants false feedback on their performance during Boggle, a word search game. The intention was to have participants compare their performance on the game to their partner's performance, resulting in feelings of worthiness or unworthiness with regard to being a good partner. The participant and confederate were told they would be working as a team, competing against another pair of participants. They were also told that if they won the game, they would each receive a ballot for a \$100 drawing. All participants were shown identical letter grids, and the participant and confederate always beat the other team. Participants in the positive model of self conditions (secure, dismissing) were told they scored 35 points, placing them in the 95th percentile of all prior PSYCH 1010 players. They were also told that their partner scored 15 points, placing him in the 75th percentile (i.e., downward comparison). In the negative model of self conditions (preoccupied, fearful), participants were told that they only scored 5 points, placing them in the 5th percentile of all prior PSYCH 1010 players. This was contrasted with their partner's 45 points, placing him in the 95th percentile (i.e., upward comparison). To determine whether the manipulation was successful, participants were asked, "Who scored higher, you or your partner?"

Model of other manipulation. Model of other was manipulated using a short form of the Fast Friends exercise, in which two individuals respond orally to a series of increasingly

Table 3. Study 2 condition breakdown

	Pre-Secure	Fear-occupied	Dis-missing
Responsive partner	X	X	
Nonresponsive partner		X	X
High Boggle score	X		X
Low Boggle score		X	X

personal questions (Aron, Melinat, Aron, Vallone, & Bator, 1997), which creates temporary feelings of closeness between strangers. An example of a less personal question is “Would you like to be famous? In what way?” A more personal question is “What is your most treasured memory?” Because of time constraints, participants responded to only 11 of the original 36 questions. The confederate gave the same answers for each participant. In order to create the perceptions of availability and responsiveness for those in the positive model of other conditions (secure, preoccupied), he took his time pondering and responding to the questions, and was attentive when the participant gave his or her responses. To induce the impression of unavailability and nonresponsiveness for those in the negative model of other conditions (fearful, dismissing), the confederate took out his cell phone halfway through the exercise, and began sending text messages. As a result, he provided cursory, seemingly superficial responses, and was distracted and inattentive when the participant responded. To establish if this was successful, participants were asked two questions regarding the confederate’s availability and responsiveness: “Do you feel your partner opened up to you?” and “How engaged was your partner during this task?” Participants responded on a 7-point scale (1 = *not at all* to 7 = *very much so*). See Table 3 for condition breakdown.

Transgression. The transgression occurred while the participant and confederate played a game of Jenga. In Jenga, a tower of blocks is stacked and players take turns pulling them out one at a time and restacking them. Typically, whoever pulls out the block that collapses the

tower loses. The participant and confederate were told they would be competing for a ballot for the \$100 drawing, and that whoever lost the game would lose the ballot previously won during the Boggle game, whereas whoever won would receive an additional ballot. They were instructed that whoever’s turn it was when the blocks fell over would lose the game. During the participant’s turn, the confederate touched the tower and commented on how sturdy it was. While doing this, he knocked the blocks over, causing the participant to lose. When the experimenter came into the room and asked whose turn it had been when the tower collapsed, the confederate said it was the participant’s turn. Consequently, the participant unfairly lost the game and was left with no ballots, whereas the confederate had two.

Self-reported post-transgression responses. All items were rated on a 7-point scale (1 = *not at all* to 7 = *very much so*). Items were chosen that reflected the cover story of the experiment. Three items evaluated forgiveness ($\alpha = .81$; e.g., “In the future, when you think about your experience working with your partner, will you view it as a positive experience?”). Grudge was assessed with two items, $r = .35$, $p < .01$, (e.g., “Do you want to hold on to this negative experience with your partner?”). Three items evaluated revenge ($\alpha = .77$; e.g., “Do you feel like you want to get even with your partner in this situation?”). Finally, there were two avoidance items, $r = .42$, $p < .01$ (e.g., “If given the opportunity, would you work with your partner again?”).

Procedure

Upon arrival, the participant and confederate were given a study overview and told that, depending on their performance during the games, they might be eligible for a \$100 drawing. Participants were then randomly assigned to one of the four conditions. Next, the participants and confederate played Boggle. The confederate went to a computer in another room and the participant began the game. All participants engaged in three 1-min trials before receiving false feedback. After getting their score, their partner’s score, and the other team’s score, the participant completed

the manipulation check item. Then the confederate was brought back into the main room where he and the participant were each given a ballot for the \$100 drawing. Model of other was then manipulated with the Fast Friends exercise. Afterward, the confederate was taken to the other room, and the participant completed the manipulation check items. Once the questionnaire was completed, the confederate came back into the room with the participant, and they were told they would be playing Jenga and competing against each other for a ballot for the drawing. After several turns, the confederate committed the transgression, and the experimenter took back the participant's ballot and gave the confederate an additional ballot. Finally, the confederate left the room and the participant completed a questionnaire inquiring about the game, including the self-report measures. When finished, participants were debriefed and credited.

Results

Manipulation checks

Model of self. Participants were asked who scored higher on Boggle, themselves or the confederate. There was a significant difference in responses by condition, $\chi^2(3) = 126.47, p < .01$, indicating that participants were attentive and able to assess who had performed better. Of the participants in the secure condition, 93.94% correctly answered that they had scored higher than their partner. All participants in the preoccupied condition correctly reported that their partner had scored higher than they did. All participants in the fearful and dismissing conditions answered that their partner scored higher. These results indicate that the Boggle feedback communicated its intended message.

Model of other. Although our confederate was male, there were no gender differences in how comfortable participants felt engaging in the Fast Friends task with him, $t(43.5) = 1.72, p = .09$ ($M_{\text{males}} = 5.40, SD_{\text{males}} = 1.38$; $M_{\text{females}} = 4.92, SD_{\text{females}} = 1.21$). *T* tests determined if desired perceptions of the confederate were induced. The two items, partner's openness and partner's engagement, were combined

into one variable by computing the average. As expected, participants in the secure ($M = 5.28, SD = 1.07$) and preoccupied ($M = 5.45, SD = 0.93$) conditions reported no difference in the confederate's openness or engagement, $t(63) = 0.66, p = .51$. Neither did participants in the fearful ($M = 4.68, SD = 1.01$) and dismissing ($M = 4.56, SD = 1.17$) conditions, $t(63) = -0.51, p = .61$. Secure participants perceived the confederate as more open and engaged than fearful participants, $t(64) = -2.28, p = .02$, and dismissing participants, $t(63) = -2.78, p < .01$. Preoccupied participants also saw the confederate as more open and engaged than fearful, $t(65) = -2.97, p < .01$, and dismissing participants, $t(61) = -3.49, p < .01$. These results support the successful manipulation of participants' model of other. Secure and preoccupied participants perceived the confederate as more open and more engaged than fearful and dismissing participants.¹

Attachment and post-transgression response analysis

A significant 4×4 mixed model interaction was found looking at attachment's effect on victims' post-transgression responses, $F(9, 318) = 4.14, p < .01$ (see Table 4).

Between conditions. Because the directional hypotheses were supported in Study 1, we followed up the mixed factorial analysis of variance (ANOVA) with one-tailed *t* tests, as recommended by Maner (2014). Hypotheses 1 and 7 were supported. Secure participants ($M = 5.68, SD = 1.01$) were significantly more forgiving than the averaged forgiveness means of preoccupied, fearful, and dismissing participants ($M = 5.11, SD = 1.10$), $t(59) = 2.79, p < .01$. Similarly, dismissing participants ($M = 1.94, SD = 1.21$) were more

1. In order to ensure that the participants did not view the confederate's nonresponsiveness a transgression in and of itself, they were given the opportunity to write about their experience during the Fast Friends exercise. The question was open-ended and coded to determine whether participants mentioned their partner's cell phone use or not. Of all the participants, only five did so, suggesting that the vast majority of participants did not perceive the confederate's behavior to be a transgression or even worth mentioning. We would like to thank the anonymous reviewer who raised this issue.

Table 4. Study 2 means and standard deviations for self-report post-transgression responses

	Forgive		Grudge		Revenge		Avoid	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secure	5.68	1.00	1.33	0.68	1.55	0.94	2.23	1.17
Preoccupied	5.34	1.02	1.74	1.19	1.50	0.83	2.17	1.15
Fearful	5.32	0.90	1.71	0.99	1.66	0.90	2.26	0.94
Dismissing	4.68	1.37	1.56	0.85	1.94	1.21	2.77	1.38

Table 5. Study 2 difference means and standard deviations

	DIFF1		DIFF2		DIFF3		DIFF4	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secure	3.97	1.67	-1.82	0.58	-1.53	0.84	-0.62	1.23
Preoccupied	3.54	1.44	-1.16	1.14	-1.53	0.83	-0.69	1.54
Fearful	3.45	1.42	-1.37	0.93	-1.44	0.76	-0.064	1.23
Dismissing	2.59	1.98	-1.57	0.84	-1.06	1.18	0.05	1.61

Note. DIFF1 = forgiveness mean minus collective grudge, revenge, and avoidance mean; DIFF2 = grudge mean minus collective forgiveness, revenge, and avoidance mean; DIFF3 = revenge mean minus collective forgiveness, grudge, and avoidance mean; DIFF4 = avoidance mean minus collective forgiveness, grudge, and revenge mean.

vengeful than participants in the other conditions ($M = 1.61$, $SD = 0.94$), $t(53) = 1.65$, $p = .04$. Hypotheses 3 and 5 were not supported. Preoccupied participants ($M = 1.74$, $SD = 1.19$) were not significantly more likely to hold a grudge than the other three attachment styles ($M = 1.53$, $SD = 0.84$), $t(43) = 1.00$, $p = .16$, and participants in the fearful condition ($M = 2.26$, $SD = 1.38$) were no more likely to avoid than participants in the other conditions ($M = 2.39$, $SD = 1.23$), $t(50) = -.57$, $p = .71$.

Difference analysis. Forgiveness was much higher than unforgiveness across all conditions; therefore, instead of comparing the mean differences between predicted dominant post-transgression responses and combined other post-transgression responses for each attachment style, we compared the magnitude of difference across attachment styles as in Study 1 (see Table 5). For example, because forgiveness was higher than unforgiveness, the difference between forgiveness and unforgiveness means should be *greatest* for secure individuals ($M = 3.97$, $SD = 1.67$) versus preoccupied, fearful, and dismissing participants

combined ($M = 3.19$, $SD = 2.17$). This was supported, $t(71) = 2.90$, $p < .001$, lending support to Hypothesis 2.

For preoccupied participants, because forgiveness was so high, the difference between holding a grudge and the combined means of forgiveness, revenge, and avoidance ($M = -1.16$, $SD = 1.14$) should be *lowest* when compared to differences for secure, fearful, and dismissing participants ($M = -1.59$, $SD = 0.78$). This was the case, $t(42) = 2.09$, $p = .04$, supporting Hypothesis 4.

The difference between seeking revenge and the combined means of forgiveness, grudge, and avoidance should be lower for dismissing participants ($M = -1.06$, $SD = 1.18$) than secure, preoccupied, and fearful participants ($M = -1.50$, $SD = 0.81$). This was supported, $t(42) = 2.10$, $p = .04$, providing more evidence for Hypothesis 8.

Finally, the difference between avoiding and the combined means of forgiveness, grudge, and revenge should be lower for fearful participants ($M = -0.64$, $SD = 1.23$) than secure, preoccupied, and dismissing participants ($M = -0.42$, $SD = 1.46$). However, this hypothesis

was not supported, $t(64) = -0.96, p = .34$. In fact, the difference was actually smaller for the other attachment styles, although not to a significant level. Thus, Hypothesis 6 was not supported.

Discussion

In the past, manipulating adult attachment style has typically been accomplished using priming paradigms (e.g., Bartz & Lydon, 2004; Birnbaum, Simpson, Weisberg, Barnea, & Assulin-Simhon, 2012; Carnelley & Rowe, 2007; Mikulincer & Arad, 1999; Mikulincer, Hirschberger, Nachmias, & Gillath, 2001; Mikulincer & Shaver, 2001). However, this study attempted to create a state attachment bond between participants and a confederate by using a novel procedure of manipulating variables associated with the theoretical underpinnings of attachment, namely, working models of self and other.

The overall pattern of post-transgression responses found was similar to Study 1, with some exceptions. In this study, forgiveness was much higher than unforgiveness for all attachment styles. It is possible that the transgression was not severe enough to elicit strong unforgiving responses. Real-life transgressions can have serious consequences for victims, and the transgression in this experiment was comparatively modest. With regard to between-condition differences, the predicted trend supported Hypotheses 1 and 7. Secure participants were the most forgiving and dismissing participants were the most vengeful.

Hypothesis 3 was not supported. Although grudge holding was higher for participants in the preoccupied condition, the difference was not significant. This could be because reported grudge was so low overall. Holding a grudge was the least common response in general; therefore, floor effects may have masked a significant difference.

Hypothesis 5 was also not supported. Fearful participants were predicted to be more avoidant than the other three attachment styles, which was not the case. One possible reason for this is that because the chances of seeing the confederate again in the future were

slim, future avoidance was already presumed to be the default response of participants. It is also possible that avoidance is more of a psychological process for fearful individuals. Because they are afraid of rejection, they may be reluctant to actually physically avoid others and risk jeopardizing the relationship, instead opting for more psychological avoidance, possibly by repressing thoughts about the transgression and negative emotions elicited by it.

Because of the high levels of forgiveness in this study, we opted to analyze the arithmetic differences between the mean hypothesized dominant response for each attachment style and the combined means of the other three responses. Offering some support to the hypotheses, the difference between forgiveness and the other responses was greatest for secure participants. The difference between grudge and the other responses was smallest for preoccupied participants. In terms of seeking revenge versus the other responses, the difference was least for dismissing participants. The only difference that was not in the predicted direction was the difference between fearful participants and the other attachment styles with regard to avoidance. Fearful participants actually reported *less* avoidance than secure, preoccupied, and dismissing participants' combined average. One explanation for this finding is that fearful individuals value their relationships, in part because they are wary about their potential for developing new relationships, and have difficulty opening up and trusting others. Because of this, they may prioritize maintaining the relationship with the transgressor over physically avoiding him or her. Instead, fearful individuals could employ psychological avoidance tactics, such as avoiding thinking about the transgression.

General Discussion

Although past research showing that secure individuals are more forgiving than insecure individuals established a relation between adult attachment styles and forgiveness, it primarily focused on the differences between secure and insecure attachment, rather than comparing different types of insecurity. These

studies have also been nonexperimental, limiting researchers' capacity to draw causal conclusions. The purpose of our research was to explore whether the relation between attachment and post-transgression responses extended into different categories of insecurity and unforgiving post-transgression responses. The predictions that secure participants would be more forgiving than insecure participants; preoccupied participants would be more likely to hold a grudge than secure, fearful, or dismissing participants; fearful participants would be the most likely to avoid; and dismissing participants would report seeking revenge to a greater degree than the other attachment styles were generally supported.

Study 1 was nonexperimental. The results replicated the relation between secure attachment and forgiveness that other studies have found (Burnette et al., 2009; Lawler-Row et al., 2006; Webb et al., 2006), and also indicated differential responses as a function of being insecurely attached. All post-transgression responses aligned with the predicted pattern. An experimental design was used in Study 2 to test causality by manipulating adult attachment styles via working models of self and other. The pattern of post-transgression responses found in Study 1 was mostly replicated, with secure participants forgiving the most, preoccupied participants reporting the highest degree of grudge holding and dismissing participants indicating the greatest desire for vengeance. However, unlike Study 1, fearful participants were less avoidant than the other attachment styles.

Overview of post-transgression response trends

The predicted trend in post-transgression responses as a function of individuals' attachment styles was supported for forgiveness, grudge, and revenge in both studies. However, there was some ambiguity regarding avoidance. Study 1 found that, as predicted, fearful individuals were the most likely to avoid transgressors. In contrast, Study 2 showed that dismissing individuals were the most avoidant. This ambiguity makes sense because

individuals who experience dismissing attachment bonds use avoidant coping strategies to defend against negative affect (Muller, 2009, 2010). Not only does defensive avoidance deflect focus from unpleasant feelings, it also helps maintain a positive view of self (Muller, 2009, 2010). Such defensiveness could be reflected in avoidance of transgressors or transgression-related thoughts and emotions. Rather than seeking revenge as a means of restoring a positive view of the self, dismissing individuals' positive models of self may not even be impacted by transgressions because of their implementation of defensive avoidance.

Future studies should disambiguate the relation between fearful and dismissing attachment and avoiding transgressors, possibly by incorporating a more comprehensive measure of avoidance, as well as a measure of defensiveness. This study focused on physical avoidance of transgressors rather than experiential, or psychological, avoidance (Orcutt, Pickett, & Pope, 2005). However, defensiveness might manifest as a cognitive strategy antithetical to rumination, whereby individuals suppress negative cognition regarding the transgression, or even deny its occurrence.

Implications

Attachment style is a meaningful part of how relationship threat is interpreted, consequently impacting how individuals respond to such threats. These responses have important ramifications for the relationships in question, particularly when considered in relation to attachment styles. For instance, because of preoccupied individuals' tendency to hold a grudge, their fear of abandonment by attachment figures may be exacerbated, with continual dwelling on thoughts of the transgression inhibiting relationship restoration. Similarly, if fearful individuals are wary of getting close to others and they avoid after a transgression, their sense of being alone might be worsened. Rather than restoring the relationship via forgiving, avoiding reinforces one's sense of separateness from attachment figures, and continual avoidance may intensify and reinforce fearful individuals' hesitation to get close to others. The same effects could be

shown for dismissing individuals, who also exhibited the tendency to be avoidant. Disregard for relationships with others, and minimization of relationships' importance, could be strengthened when they avoid. Because secure individuals were the most forgiving, and secure attachment has typically been linked to the most positive outcomes when compared to the other attachment styles, it reasons that they are the best equipped to successfully handle the occurrence of transgressions and subsequent relationship restoration.

Another interesting implication of the results is the reciprocal relation forgiving might have on attachment. Encouraging forgiving could alleviate some of the concerns that insecurely attached individuals have with regard to relationships and attachment figures. If their forgiveness is met with positive relationship outcomes, this could be a way to help reduce insecurity and promote better relationship functioning. In future, it would be interesting to test the inverse relation, whereby post-transgression responses are manipulated and their effects on attachment style are measured.

Limitations

There were a few limitations to our studies. First, in Study 1, there were a broad array of relationships reported, including transgressions committed by acquaintances and strangers. Although this allows us to determine that attachment is an important factor across a variety of different relationships, future studies should hone in on certain types of relationships in which attachment relationships are likely to be present, such as familial or romantic relationships. This would provide insight into how trait attachment and specific attachment relationship bonds to transgressors function as a result of the nature of victims' relationships to transgressors. As it was, we only examined participants' trait attachment, rather than attachment bonds to the transgressor.

In Study 2, the sample was primarily based on females. However, despite this lack of diversity, we feel confident that the effects are generalizable based on the fact that gender has been

shown to be unrelated to forgiveness (Fehr, Gelfand, & Nag, 2010). Additionally, there were no gender differences found in the current studies for any of the post-transgression responses, and Study 1 was based on a diverse sample with regard to gender and age.

Another limitation of the second study was the manipulation check used for assessing participants' model of self. They were asked whose Boggle score was higher, theirs or the confederate's. This does not necessarily indicate that their self-worth was affected by receiving either the low or high score, but it confirmed that participants were receptive to the positive or negative feedback provided in their respective conditions, and were able to accurately report whether they scored higher or lower than their partner. Research suggests that self-esteem, which is an important component of an individual's model of self, is impacted by academic performance (Baumeister, Campbell, Krueger, & Vohs, 2003). Participants were told that their Boggle scores were indicative of their verbal intelligence; therefore, it reasons that receiving a high score should positively impact self-esteem, whereas receiving a low score should negatively impact self-esteem. This, coupled with the fact that participants' post-transgression responses based on the manipulated attachment styles mirror the response patterns that we have found in multiple studies, makes us confident that the model of self aspect of the manipulation was successful.

Conclusion

Interpersonal relationships are important, and human beings' need to belong facilitates social bonding. When the need to belong is fulfilled, people experience psychological and physical health benefits (Myers, 2000); however, when unfulfilled, they experience negative psychological and physical repercussions (Baumeister & Leary, 1995). As a result, it is important to better understand the factors that threaten and facilitate social bonds. In the process of forming, developing, and maintaining relationships, individuals commit transgressions that jeopardize social bonds. Two factors that appear to play a role in the repair

of damaged relationships are the attachment style of victims and their post-transgression responses. This set of studies established a relation between individuals' adult attachment styles and whether they forgave, held a grudge against, sought revenge against, or avoided someone who transgressed against them.

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