

Putting the Brakes on Aggression Toward a Romantic Partner: The Inhibitory Influence of Relationship Commitment

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Why do people behave aggressively toward romantic partners, and what can put the brakes on this aggression? Provocation robustly predicts aggression in both intimate and nonintimate relationships. Four methodologically diverse studies tested the hypothesis that provocation severity and relationship commitment interact to predict aggression toward one's romantic partner, with the aggression-promoting effects of provocation diminishing as relationship commitment increases. Across all four studies, commitment to one's romantic relationship inhibited aggression toward one's partner when individuals were severely (but not mildly) provoked. Study 4 tested the hypothesis that this Partner Provocation \times Commitment interaction effect would be strong among individuals high in dispositional tendencies toward retaliation but weak (perhaps even nonexistent) among individuals low in such tendencies. Discussion emphasizes the importance of understanding instigating, impelling, and inhibiting processes in the perpetration of aggression toward intimate partners.

Keywords: romantic relationships, commitment, aggression, I³ theory

Although romantic relationships often begin with chocolates and roses, eventually thorns are sure to emerge. Indeed, precisely because of the deep interdependence that characterizes these relationships, romantic partners have a particularly pronounced capac-

ity to be infuriating. Whether by flirting with others, criticizing our flaws, thoughtlessly neglecting our needs and desires, or by other omissions and commissions, romantic partners can sometimes provoke angry responses. Such provocation frequently triggers an urge toward retaliation, perhaps even toward aggression.

When will provoked people aggress toward their romantic partner, and what might put the brakes on their aggression? In the current investigation, we test the hypothesis that partner provocation increases aggressive tendencies toward one's partner, especially among individuals who are weakly (vs. strongly) committed to their partner. The logic underlying this prediction is that partner provocation frequently triggers an urge toward aggressive retaliation but that relationship commitment helps individuals override this urge.

Partner Provocation in Intimate Relationships

Although people typically expect that romantic relationships will be rewarding, most individuals experience some amount of conflict with their romantic partner. Indeed, conflict is "an inevitable—though often unanticipated—feature of close relationships. The strong, frequent, and diverse bonds between [romantic partners] set the stage for conflicting interests to surface" (p. 650, Holmes & Murray, 1996; see also Braiker & Kelley, 1979). Con-

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flict in romantic relationships frequently begins when one partner feels provoked by the other.

Partner provocation refers to anger-eliciting behavior enacted by a relationship partner. Provocation is a powerful predictor of aggression in both intimate and nonintimate contexts (e.g., Berkowitz, 1993; Bettencourt & Miller, 1996; Finkel, DeWall, Slotter, Oaten, & Foshee, 2009; Slotter & Finkel, 2011), with *aggression* defined as behavior enacted toward the proximal goal of inflicting harm on a target who is motivated to avoid being harmed (Baron & Richardson, 1994; see also Anderson & Bushman, 2002). Fortunately, romantic partners typically are not aggressive toward each other, even when they experience an aggressive urge (Finkel, 2007, 2008; Finkel et al., 2009; Finkel & Eckhardt, in press; Slotter & Finkel, 2011).

Putting the Brakes on Aggression: The Inhibitory Influence of Relationship Commitment

How do individuals confronted with partner provocation put the brakes on their aggressive urges in favor of nonaggressive responding? We argue that relationship commitment is a crucial factor that helps individuals put the brakes on aggression. *Commitment* refers to psychological attachment to, intent to persist in, and long-term orientation toward a romantic relationship (Arriaga & Agnew, 2001; Le & Agnew, 2003; Rusbult, 1983; Rusbult & Van Lange, 1996). Commitment stems from the experience of dependence on a relationship and is perhaps the strongest predictor of relationship persistence, even beyond the contributions of overall relationship positivity and satisfaction (Drigotas & Rusbult, 1992; Le & Agnew, 2003; Rusbult, 1983). Commitment also uniquely promotes effortful pro-relationship behavior (see Rusbult, Olsen, Davis, & Hannon, 2001). For example, relative to their less committed counterparts, strongly committed individuals are more likely to forgive their partner's transgressions (Finkel, Rusbult, Kumashiro, & Hannon, 2002), to accommodate in response to their partner's selfish behavior (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991), and to make sacrifices to benefit their partner (Van Lange et al., 1997). The present investigation explores whether commitment is similarly effective in helping individuals override aggressive urges they might experience in response to partner provocation.

Previous research provides preliminary support for the idea that commitment predicts less aggression in romantic relationships. For example, eighth- and ninth-grade students exhibited a point biserial correlation of $-.11$ between a one-item measure of commitment ("Do you feel committed to keeping your relationship with [your current partner]?") and likelihood of having ever perpetrated at least one physically aggressive behavior toward their current partner (Gaertner & Foshee, 1999). This study is important because it established a link between strong commitment and reduced tendencies toward aggression, but the effect was relatively weak ($r = -.11$). Other research has also demonstrated an association between commitment and aggression, but these effects were also relatively weak (e.g., Billingham, 1987; Hanely & O'Neill, 1997). In addition, previous research did not examine whether commitment is a particularly powerful predictor of reduced aggressive tendencies when individuals are severely rather than mildly provoked. Such moderation would suggest that commitment predicts reduced aggression because it facilitates the inhibition of aggres-

sive urges in response to aggression-relevant instigators, such as provocation (Finkel, 2007; Slotter & Finkel, 2011).

Assessing Relationship Commitment

Gaertner and Foshee's (1999) decision to assess relationship commitment with a self-report instrument aligns with normative procedures; indeed, hundreds of studies have used such instruments (see Le & Agnew, 2003; Rusbult et al., 2001). In this article, we used self-report instruments in Studies 2 and 4. To establish the generality of our effects, however, we also employed two additional methods of assessing commitment. First, in Study 1, objective coders assessed participants' commitment after listening to an audio recording of participants talking about how they would respond in a situation where somebody was flirting with their romantic partner. Second, in Study 3, we built on recent research investigating implicit sentiments toward close relationship partners (Banse, 1999; Banse & Kowalick, 2007; DeHart, Pelham, & Murray, 2004; LeBel & Campbell, 2009; Lee, Rogge, & Reis, 2010; Murray et al., 2009; Murray, Holmes, & Pinkus, 2010; Scinta & Gable, 2007; Zayas & Shoda, 2005; for a review, see Fitzsimons & Anderson, in press) by employing a variant of the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) to measure participants' implicit commitment toward their romantic partner. Implicit measures that are based on response latencies, such as the IAT, provide important tools for assessing individuals' commitment toward their romantic partner, because such measures are largely immune to individuals' impression-management efforts. The IAT also measures individuals' immediate, automatic responses, rather than their deliberated views.

I³ Theory

We have argued that being provoked by one's partner frequently serves as an instigator of aggressive urges and that relationship commitment can help individuals inhibit these aggressive urges. One theory that deals specifically with the interplay of these psychological processes is I³ theory (Finkel, 2008; Finkel & Eckhardt, in press; Finkel & Slotter, 2009; Slotter & Finkel, 2011). I³ theory—pronounced "I-cubed theory" and named after the first letter in *I*nstigating, *I*nhibiting, and *I*mpelling processes—does not advance one central variable, or even a subset of variables, as the key cause of aggression. Rather, it is a process-oriented metatheoretical framework, and it suggests that instigating and inhibitory processes are two of the three key processes underlying aggressive behavior; the third process involves impelling forces.

Instigation refers to the exposure to discrete social dynamics with the potential victim that normatively triggers an urge to aggress (e.g., provocation); we use the term "normative" to refer to the experience of the typical person confronting this particular instigator under the typical circumstances. Such social dynamics can trigger hostile cognitive, affective, physiological, and even (preliminary) behavioral tendencies (Berkowitz, 1993). *Inhibition* refers to dispositional or situational factors that increase the likelihood that people will override their urge to aggress (e.g., commitment to the relationship). Individuals are especially likely to behave aggressively when instigators and impelling forces are strong and when inhibitory forces are weak.

Finally, *impellance* refers to dispositional or situational factors that psychologically prepare the individual to experience a strong urge to aggress when encountering this instigator in this context (e.g., dispositional tendencies toward retaliation). Instigation and impellance combine to determine the potential perpetrator's "urge-readiness," the readiness to respond with aggression to this particular instigator in this particular situation. As a result of variation in impellance, people may sometimes shrug off an instigator (or perhaps not even notice it; see Crick & Dodge, 1994), experiencing virtually no urge to aggress, or they may react strongly to a trigger, experiencing a powerful urge to aggress. The most powerful urges arise when both instigation and impellance are strong.

All four studies in the current research examined an important instigator (partner provocation) and an important inhibitor (commitment), which allowed us to test the hypothesis that the inhibitor can help individuals override the aggressive urges emerging from the instigator. Inspired by I³ theory, Study 4 extended this work by examining whether this Instigator \times Inhibitor interaction effect was further moderated by an impellor. Specifically, it examined whether the Partner Provocation \times Commitment interaction effect was especially strong among individuals who are high in dispositional retaliatory tendencies (Fincham & Beach, 2002) and especially weak (or perhaps even nonexistent) among individuals who are low in such tendencies. Indeed, individuals who are low in such tendencies are likely to experience weak aggressive urges in response to partner provocation, thereby obviating the need to rely on their commitment to override these urges. In contrast, individuals who are high in such tendencies are likely to experience strong aggressive urges in response to partner provocation, which increases the need to rely on their commitment to override these urges. Study 4 provides the first ever test of I³ theory's crucial Instigator \times Inhibitor \times Impellor interaction effect in any domain.

Hypothesis and Research Overview

We ran a methodologically diverse series of studies to test the hypothesis that provocation severity and commitment interact to predict aggressive behavior toward one's romantic partner, with the effect of provocation on aggression weaker among highly committed participants than among less committed participants. In Study 1, participants psychologically immersed themselves in a simulated situation where they were mildly, moderately, or severely provoked by their romantic partner. Independent coders rated their verbalized responses to this simulated situation for both commitment and aggression toward their romantic partner. In Study 2, we manipulated partner provocation; assessed participants' self-reported commitment; and employed a behavioral, laboratory-analog measure of aggression. In Study 3, we manipulated provocation as in Study 1 and assessed aggression as in Study 2, but, as noted above, we employed an implicit measure of commitment.

Study 4, a 5-week nightly diary study conducted via the Internet, expanded upon the results of the first three studies by also considering an impellor: dispositional retaliatory tendencies. At study intake, participants completed a standardized measure of such tendencies (Fincham & Beach, 2002). Then they reported each night how much their partner had provoked them that day and the degree to which they were committed to their partner that day. At the end of each nightly diary, participants completed an Internet-based variant of the labora-

tory analog measure of aggression from Studies 2 and 3. These four studies employed procedures from multiple perspectives from both clinical (Study 1) and social psychology (Studies 2–4) to converge on a broad picture of the connections between relationship commitment and partner aggression.

Study 1

In Study 1, we tested our central hypotheses by employing a procedure from the clinical psychology literature. Specifically, we employed the *articulated thoughts in simulated situations* (ATSS) procedure (Davison, Robins, & Johnson, 1983), which enables researchers to expose participants to well-controlled but experientially impactful partner provocations (e.g., Costa & Babcock, 2008; Eckhardt, Barbour, & Davison, 1998; Eckhardt, Norlander, & Deffenbacher, 2004; Eckhardt & Jamison, 2002; Eckhardt, Jamison, & Watts, 2002; Eckhardt & Kassino, 1998; Finkel et al., 2009). Participants listened to and were instructed to immerse themselves psychologically in simulated situations in which their partner engaged in behavior that varied in how much it disrespected and provoked jealousy from the participant. Trained coders rated these verbalizations for signs of participants' commitment to their relationship and aggressive tendencies toward their partner.

Although the ATSS procedure uses hypothetical situations, its lengthy and personally involving scenarios, which are interspersed with think-aloud procedures, allow for far greater ecological validity than do most scenario procedures. This procedure also has several other advantages. First, it provides tight experimental control over the partner provocation experienced by participants. Second, it has an unstructured response format, which does not constrict participants' responses. Third, it uses real-time, rather than retrospective, assessments. Finally, it provides insight into individuals' moment-to-moment experiences in the face of escalating provocation by their partner.

Method

Participants. Ninety-nine heterosexual undergraduates (56 women), all in dating relationships, volunteered to take part in the current study in partial fulfillment of the requirements for their introductory psychology course. Participants were 18.3 years old ($SD = 0.98$) and had been dating their current partner for 13.37 months ($SD = 13.12$), on average. Data from four participants were discarded because of experimenter error or computer malfunction, resulting in a final sample of 95 participants.

Procedure. Participants attended a single laboratory session in which they completed the ATSS procedure. The experimenter explained that the instructions and scenarios would be administered via computer, requested that the participant don a pair of headphones attached to a computer, turned on an audio-recorder, and left the participant alone in the room.

Participants listened to one of three scenarios that varied in the severity of *partner provocation*. These scenarios were modified from those used by Eckhardt et al. (1998). In all of the scenarios, participants listened to a hypothetical situation in which they went out to a bar with their romantic partner and, upon returning from getting drinks, found an attractive interloper flirting with their romantic partner.

The interloper's behavior was identical across the three conditions; only the behavior of participants' romantic partner varied. In

the *no provocation* scenario, the partner remained polite to the interloper but clearly rebuffed him or her in favor of the participant, stating that, after a year of dating, “things are really great, and I don’t see why that would change.” In the *moderate provocation* scenario, the partner showed interest in the interloper, admitting that, after a year of dating, “things have definitely changed” for the worse in the relationship. In the *severe provocation* scenario, the partner expressed clear romantic interest in the interloper, engaging in flirtatious physical contact and claiming that, after a year of dating, “thing have definitely changed in the relationship, and sometimes I don’t know what I am doing still dating [the participant].” (Complete simulated situations are available from the first author upon request.) All three scenarios consisted of eight separate segments; participants verbalized their thoughts for 30 s after each segment.

Coding procedures. Three undergraduate research assistants coded each participant’s verbalized thoughts in response to the ATSS scenarios. They only heard participant responses to the ATSS scenarios, not the scenarios themselves; thus, they remained blind both to participant condition and to the study hypotheses. To assess *commitment*, coders rated each of the eight segments on the extent to which participants verbalized (a) that the relationship was important to them (i.e., “To what extent do the participants express that their relationship is especially important to them and that they would be emotionally distressed if their relationship were to break up?”) and (b) that they were determined to make it last (i.e., “To what extent do the participants express a desire to stay with their partner no matter what and to fix what is wrong in the relationship?”; 0 = *not verbalized at all*, 6 = *extreme verbalization*; $M = 3.00$, $SD = 1.79$; average $\alpha = .78$; range of α across segments = $.70$ to $.81$).

To assess *aggression*, coders rated each of the eight segments on the extent to which participants verbalized physically and verbally aggressive thoughts toward the partner (0 = *no physical/verbal aggression*, 6 = *extreme physical/verbal aggression*; $M = 0.35$, $SD = 0.30$; average $\alpha = .82$; range of α across segments = $.67$ to $.97$). An example of a physically aggressive response was, “If he ever did that to me, I would beat his ass”; an example of a verbally aggressive response was, “If she ever acted like such a bitch, I would tell her off.”

Coders rated each of the eight segments on the extent to which participants verbalized *anger* toward their partner (0 = *no anger*, 6 = *extreme anger*; $M = 2.29$, $SD = 1.31$; average $\alpha = .80$; range of α across segments = $.71$ to $.92$). This control variable was coded from participants’ responses to allow us to establish that our predicted effects were robust beyond the contribution of participants’ anger toward their partner.

Coders also rated each of the eight segments on the extent to which participants verbalized *affection* for their partner (0 = *no affection*, 6 = *extreme affection*; $M = 2.58$, $SD = 1.30$; average $\alpha = .81$; range of α across segments = $.70$ to $.94$). This control variable allowed us to establish that our predicted effects were robust beyond the contribution of participants’ general feelings of warmth and affection toward their partner.

Results and Discussion

To test the hypothesis that strong relationship commitment would weaken the aggression-promoting effect of partner provo-

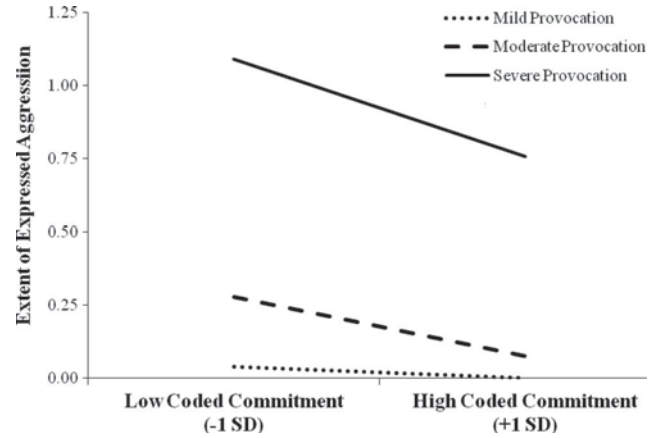


Figure 1. Study 1: Extent of aggression expressed as a function of provocation and coded commitment.

cation, we predicted *aggression* from *commitment* (standardized, $M = 0$; $SD = 1$), *partner provocation* (*no provocation* = -0.5 , *moderate provocation* = 0 , *severe provocation* = 0.5), and their interaction term. We also controlled for participant sex in our primary analysis (*female* = -0.5 , *male* = 0.5) and coders’ standardized ratings of participants’ *anger* toward and *affection* for their partner in our auxiliary analysis ($M = 0$; $SD = 1$).

As predicted, the main effect of *partner provocation* was significant, $B = 0.50$, $t(93) = 5.70$, $p < .001$. Not surprisingly, participants’ responses were nonaggressive in the no provocation condition ($M = 0.02$; $SD = 0.06$), somewhat more aggressive in the *moderate* provocation condition ($M = 0.14$; $SD = 0.22$), and most aggressive in the *severe* provocation conditions ($M = 0.60$; $SD = 0.46$).¹ This main effect was qualified by a significant *Partner Provocation* \times *Commitment* interaction effect, $B = 0.25$, $t(93) = 3.00$, $p < .01$. The main effect of *commitment* was not significant, $B = 0.03$, $t(93) = 0.77$, $p = .44$. No significant main effect or interactions involving participant sex emerged.

To clarify the nature of the *Partner Provocation* \times *Commitment* interaction effect, we examined the effect of *partner provocation* on aggression among people who were low ($-1 SD$) and high ($+1 SD$) in coded *commitment* (see Figure 1; Aiken & West, 1991). As predicted, participants who were low in commitment exhibited significantly more aggression as the severity of provocation by their partner increased, $B = 0.20$, $t(93) = 6.32$, $p < .01$, whereas participants who were high in commitment did not, $B = 0.06$, $t(93) = 1.65$, $p = .12$. These results provide the first evidence that relationship commitment puts the brakes on aggressive behavior in response to intense partner provocation.

Auxiliary analysis. We also sought to establish that these results were robust beyond the effects of participants’ *anger* and

¹ Variance in aggressive responses was low in our no provocation condition. This low variance was expected, as we designed this scenario to be nonprovoking for most people. To ensure that our key results were robust regardless of this restricted range, we replicated our primary analysis after omitting the mild provocation condition—that is, after treating provocation as a two-level factor (moderate vs. severe). In support of our hypothesis, this analysis also revealed the significant coded commitment by provocation interaction effect, $B = .28$, $t(59) = 2.55$, $p = .01$.

affection toward their partner. Thus, we replicated our key model, this time also controlling for the standardized effects of participants' coded *anger* toward and *affection* for their partner and all interaction terms involving these covariates. Our central *Partner Provocation* \times *Commitment* interaction effect remained marginally significant in this stringent analysis, $B = 0.20$, $t(82) = 1.75$, $p = .08$. Neither participants' *anger* toward their partner, $B = 0.07$, $t(82) = 0.40$, $p = .69$, nor their *affection* for their partner, $B = 0.06$, $t(82) = 0.83$, $p = .41$, significantly predicted *aggression* in this model as main effects. In addition, participants' *anger* toward their partner did not interact with their coded *commitment* to predict *aggression*, $B = 0.02$, $t(82) = 0.44$, $p = .66$, and participants' *affection* for their partner did not interact with *partner provocation* to predict *aggression*, $B = 0.17$, $t(82) = 0.98$, $p = .33$. Finally, neither participants' *anger* toward their partner, $B = 0.13$, $t(82) = 1.54$, $p = .13$, nor their *affection* for their partner, $B = -0.11$, $t(82) = -1.30$, $p = .20$, moderated the *Partner Provocation* \times *Commitment* interaction. Thus, the previously reported finding that strong, versus weak, relationship commitment predicts reduced aggression toward their partner after a severe provocation was not accounted for or moderated by participants' negative feelings toward their partner, or their feelings of affection toward their partner.

Study 2

The results of Study 1 demonstrated the predicted effect that commitment moderates individuals' tendencies to become aggressive toward a romantic partner who provoked them. Study 2 built upon these findings by employing a behavioral measure of participants' aggression toward their romantic partner and manipulating provocation with false feedback (thereby assessing real-time responses to an actual provocation), rather than having participants immerse themselves in a simulated situation.

Method

Participants. Forty-three heterosexual undergraduate dating couples (86 individuals) volunteered to take part in the current study for monetary compensation (\$20/couple). Participants were 19.1 years old ($SD = 1.00$) and had been dating their current partner for 13.51 months ($SD = 25.38$), on average. Both members of the couple attended the laboratory session, although they completed all portions of the study separately.

Measures.

Commitment. Participants completed a well-validated measure of psychological *commitment* to their relationship (e.g., "I am committed to maintaining my relationship with my partner"; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 5.79$, $SD = 1.20$; $\alpha = .91$; Rusbult, Martz, & Agnew, 1998).

Satisfaction. Participants also completed a well-validated measure of *satisfaction* in their relationship (e.g., "I feel satisfied with our relationship"; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 6.10$, $SD = 0.98$; $\alpha = .92$; Rusbult, Martz, & Agnew, 1998). This control variable was included to allow us to establish that our predicted effects were robust beyond the contributions of the general relationship positivity and warmth indicated by relationship satisfaction.

Aggression. At the end of the current study, the experimenter gave participants a voodoo doll that represented their romantic

partner and a package of 200 straight pins. They were asked to take 5 min to inflict harm on the voodoo doll as a way to get out any feelings they might be having before they left the laboratory.

Scholars have amassed a large corpus of evidence demonstrating tasks, such as the voodoo doll task, can be used as ethical, behavioral proxies for aggressive behavior in the laboratory (e.g., DeWall et al., 2011). Research on magical thinking has confirmed that people, including well-educated individuals, have considerable difficulty throwing darts through representations of a liked person because of a latent superstitious belief that it could in some way harm to the person (Rozin, Millman, & Nemeroff, 1986; also see DeWall et al., 2011, for a more extensive discussion of this issue). However, after having been provoked by an otherwise well-liked person, might such inhibitions be overcome? Research in this vein has validated the use of voodoo dolls as proxies for harmful or aggressive behavior in laboratory settings (Pronin, Wegner, McCarthy, & Rodriguez, 2006). This research demonstrated that participants believed that by sticking pins into a voodoo representing a research confederate, they caused actual harm to the confederate, particularly when they had been provoked by the confederate's behavior.

A recent series of seven studies validated the voodoo doll task as a behavioral analog measure of aggression toward both strangers and romantic partners (DeWall et al., 2011). For example, aggressive people (as assessed with well-validated measures of dispositional physical aggressiveness and physical assault tendencies; Buss & Perry, 1992) insert more pins into the voodoo doll than nonaggressive people do. In addition, people who have been provoked by their romantic partner insert more pins into a voodoo doll representing their partner than people who have not been provoked do. Furthermore, pin insertion behavior correlates with a broad range of constructs that either directly tap or correlate highly with aggression toward a romantic partner, including insulting one's partner during a problem-solving task, behaving angrily during a conflict-discussion task, and blasting a close relationship partner with intense and prolonged bursts of white noise in a variant of the Taylor Aggression Paradigm (Taylor, 1967). Of particular relevance to the present article, the number of pins that people inserted during the voodoo doll task also positively predicted the number of aggressive episodes that they reported perpetrating in their romantic relationships on the well-validated Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Given these findings, the current voodoo doll task served as an ethically responsible proxy for *aggression* in a laboratory setting, with a greater number of pins stuck in the "romantic partner" indicating more aggression toward the partner ($M = 10.22$, $SD = 14.51$; range = 0–59).

Procedure. Although they arrived at the laboratory session with their romantic partner, participants completed all aspects of the current study individually. They did not interact with, or even see, their partner from the time they arrived for the study until the time they were debriefed and dismissed from the study. Participants first completed the commitment measure described above.

After completing the commitment measure, participants performed a creativity task and were led to believe that their romantic partner was evaluating their creative abilities (see Finkel et al., 2009). The experimenter told them that she was interested in how their partner viewed their creative abilities. She gave them paper and colored pencils and asked them to draw the most creative

picture that they could that included a house, a car, a tree, and two people. After they completed the drawing, the experimenter collected it and told participants that their romantic partner, who was in a different room, would evaluate its creativity. She also told them that they would receive a monetary reward for more creative drawings, based on their partner's evaluation. Participants could receive a maximum of \$5.00; however, that was only if their partner gave them the maximum creativity rating (1 = *not at all creative*, 10 = *extremely creative*; each scale point was worth \$0.50 toward the participants' monetary reward). Participants were told that they were going to complete a filler task while their partner evaluated their drawing and that they would have the chance to evaluate their partner's drawing later on in the experiment.

In reality, participants were randomly assigned, at the level of the individual (not at the level of the couple), to receive false feedback—either nonprovoking or provoking—about their creative drawing to manipulate their experience of *partner provocation*. In the *nonprovoking feedback* condition, they learned that their partner had rated their drawing as a 9 on the creativity scale, which corresponded to \$4.50. In addition, the experimenter told the participants in this condition that their partner had commented that their drawing was “fantastic and really creative,” and said that they were “really proud of [the participant].” In contrast, in the *provoking feedback* condition, participants received feedback that their partner had rated their drawing as a 3 on the creativity scale, which corresponded to \$1.50. In addition, the experimenter told the participants in this condition that their partner had commented that their drawing was “not that great and really boring,” and that they were “disappointed in [the participant].”

After receiving the feedback that they believed was from their romantic partner, the experimenter told participants that because the feedback they received might have been upsetting to them, we were required to give them a task that would allow them to release any negative feelings or aggression they might be feeling toward their romantic partner as a result. The experimenter then left participants alone for 5 min with a voodoo doll they were told represented their romantic partner and a package of straight pins. She instructed them to use the pins to do harm to the voodoo doll as a way of getting out any negative feelings they might be having as a result of the study before they left the laboratory and that the task was completely confidential. After the 5 min period, the experimenter debriefed the participants. During this debriefing, no participants expressed suspicion regarding the creativity feedback they had received earlier in the study. The experimenter then dismissed participants and recorded the number of pins that participants had placed in the voodoo doll.

Results and Discussion

To test the hypothesis that strong relationship commitment would weaken the aggression-promoting effect of provoking, compared with nonprovoking, feedback, we predicted *aggression* from *commitment* ($M = 0$; $SD = 1$), *partner provocation* (*nonprovoking feedback* = -0.5 ; *provoking feedback* = 0.5), and their interaction term. We also controlled for participant sex in our primary analysis (*female* = -0.5 , *male* = 0.5), and participants' self-reported relationship *satisfaction* in our auxiliary analysis ($M = 0$; $SD = 1$).

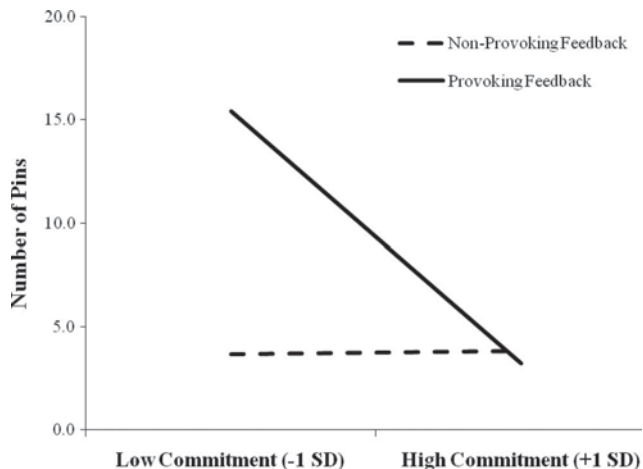


Figure 2. Study 2: Number of pins used as a function of provocation and commitment.

We employed Poisson regression procedures to account for the skewed nature of our count-based dependent variable (the number of pins used by participants). In addition, our participants in the current study were individuals nested within couples; and both individuals contributed data to the study. Thus, their data violated the standard assumption of independence in regression analyses (e.g., individuals in couples might report more similar levels of commitment to their relationship than two strangers would; e.g., Raudenbush & Bryk, 2002). We employed multilevel modeling procedures to account for the nesting of individual within couple (Raudenbush & Bryk, 2002).

As predicted, the main effect of *partner provocation* was significant, $B = 0.63$, $t(42) = 6.49$, $p < .01$. Not surprisingly, participants in the *nonprovoking feedback* condition inserted fewer pins in the voodoo doll representing their romantic partner ($M = 8.12$, $SD = 12.93$) compared with participants in the *provoking feedback* condition ($M = 12.20$, $SD = 15.73$). Also as predicted, the effect of provocation on pin usage was qualified by a significant *Partner Provocation* \times *Commitment* interaction effect, $B = -0.80$, $t(42) = 7.27$, $p < .001$. The main effect of *commitment* was also significant in this analysis such that higher levels of commitment predicted reduced aggression, $B = -0.38$, $t(42) = -4.49$, $p < .01$. No significant main effect or interactions involving participant sex emerged.

To clarify the nature of the *Partner Provocation* \times *Commitment* interaction effect, we examined the effect of *partner provocation* on aggression among people who were low ($-1 SD$) and high ($+1 SD$) in *commitment* (see Figure 2; Aiken & West, 1991).² As predicted, participants who were low in commitment exhibited significantly more aggression when they had received provoking, rather than nonprovoking, feedback from their partner, $B = 0.87$,

² The parameter estimates of Poisson regressions in SAS are automatically generated as logarithmic values. Thus, when graphing the predicted means for Poisson regressions of the current data (see Figures 2, 3, and 4), the exponential function of the predicted mean of aggression for individuals high versus low in commitment and high versus low in provocation was calculated and graphed.

$t(42) = 8.17, p < .001$, whereas participants who were high in commitment did not, $B = -0.17, t(42) = -1.51, p = .14$. These findings provide additional evidence that relationship commitment buffers people from the aggression-promoting effect of partner provocation.

Auxiliary analysis. We also sought to establish that these results were robust beyond the effects of participants' *satisfaction* in their relationship. Thus, we replicated our key model, this time also controlling for the standardized effects of participants' *satisfaction* and all interaction terms involving this covariate. Our central interaction between *Partner Provocation* \times *Commitment* remained significant in this stringent analysis, $B = -0.64, t(32) = 2.34, p < .05$. In addition, *satisfaction* neither predicted the number of pins participants used as a main effect, $B = 0.08, t(32) = 0.15, p = .88$, nor moderated the *Partner Provocation* \times *Commitment* interaction, $B = -0.56, t(32) = 1.36, p = .18$. Thus, the previously reported finding that strong, versus weak, relationship commitment predicts reduced aggression toward their partner after a severe provocation was not accounted for or moderated by participants' general feelings of positivity regarding their relationship.

Study 3

Studies 1 and 2 demonstrated that commitment moderates individuals' tendencies to become aggressive toward a romantic partner who has severely, but not mildly, provoked them. Study 3 built upon these findings by using a variation of the IAT (Greenwald et al., 1998) to assess participants' implicit commitment to their romantic partner. This response latency measure allowed us to investigate whether the previously established effects of commitment and provocation on aggression toward a partner would emerge when commitment was assessed with an implicit measure.

Method

Participants. Fifty-three heterosexual undergraduates (30 women), all in dating relationships, volunteered to take part in the current study in partial fulfillment of the requirements for their introductory psychology course. Participants were 19.1 years old ($SD = 1.06$) and had been dating their current partner for 11.70 months ($SD = 12.76$), on average.

Measures.

Implicit commitment. To assess their implicit commitment to their romantic relationship, participants completed a relational version of the IAT (adapted from Scinta & Gable, 2007). In this task, participants categorized stimulus words that appeared in the center of the screen according to the categories of "romantic partner" versus "other" or "commitment" versus "disloyalty." The response rules for categorizing the verbal stimuli varied across trial blocks. In the critical romantic partner–commitment block of trials, participants used one response key if a word belonged to the romantic partner or commitment category and a different response key if the word belonged to the other or the disloyalty category. That is, participants were required to use the same key to categorize words related to the romantic partner (partner, lover, significant other, beloved) and commitment (commitment, loyalty, trust, love, closeness, confidence) and another key to categorize words related to the other (stranger, somebody, anybody, visitor) and

disloyalty (betrayal, jealousy, hate, hurt, neglect, coldness). In contrast, in the other critical block of romantic partner–disloyalty trials, the category pairings were reversed, with the categories romantic partner and disloyalty sharing one response key, and the categories other and commitment sharing the other response key. To the extent that participants naturally associate their romantic partners with thoughts of commitment, the task should be easier to perform (faster reactions) when the same response is required for romantic partner and commitment rather than for romantic partner and disloyalty. Each critical block consisted of 60 trials. The order of the critical blocks was counterbalanced between participants.

Participants were told to respond to stimuli as quickly as possible while remaining as accurate as possible. After correct responses on a trial, participants were presented with a blank screen for 1,000 ms before the next trial. After incorrect responses on a trial, participants were presented with a blank screen for 100 ms followed by a red "X" in the middle of the screen for 800 ms and then another blank screen for 100 ms before the next trial.

The data generated by the implicit commitment IAT were cleaned and reduced in accord with standard procedures (Greenwald et al., 1998). Responses shorter than 300 ms and longer than 2,000 ms (3.4%) were re-coded as 300 ms and 2,000 ms, respectively, and all trials in which participants erroneously categorized a word (4.2%) were deleted. We then averaged the latencies of participants' correct responses for each critical block. We computed implicit commitment scores by subtracting the mean latency of correct responses in the romantic partner–commitment block ($M = 769.29$ ms, $SD = 105.07$) of trials from the mean latency in the romantic partner–disloyalty block ($M = 892.92$ ms, $SD = 140.75$). Because of the skewed nature of response latencies (raw $M = 26.96, SD = 73.51$; skewness = $-.56$ in the current data), implicit commitment scores were log transformed for analysis ($M = 0.04, SD = 0.07$). Higher scores represent higher implicit commitment.

Aggression. Adapting the procedures of Study 2, the experimenter in Study 3 gave participants a voodoo doll that represented their romantic partner, and a package of 50 straight pins. They were asked to take 5 min to inflict harm on the voodoo doll as a way to get out any negative feelings they might be having before they left the laboratory. This voodoo doll task served as a proxy for aggression (e.g., DeWall et al., 2011; Pronin et al., 2006), with a greater number of pins stuck in the "romantic partner" indicating more aggression toward the partner ($M = 2.62, SD = 3.18, range = 0-19$).

Procedure. After completing the measure of implicit commitment, participants immersed themselves in one of two randomly assigned simulated situations. These simulated situations were identical to the *no provocation* and *severe provocation* situations from Study 1; we excluded the *moderate provocation* situation from Study 1. In contrast to the Study 1 procedures, participants merely listened to these scenarios; they did not verbalize their responses. Participants were instructed to listen to the scenario and try to vividly imagine the situation as if they were actually experiencing it.

After immersing themselves in either the *no provocation* or *severe provocation* situation, the experimenter gave participants voodoo doll instructions identical to those in Study 2 and left participants alone for 5 min with a voodoo doll representing their romantic partner and a package of straight pins. After the 5-min

period, the experimenter debriefed and dismissed participants and then recorded the number of pins that participants had stuck into the voodoo doll.

Results and Discussion

To test the hypothesis that strong implicit relationship commitment would weaken the aggression-promoting effect of listening to severely provoking, compared with mildly provoking, partner behaviors, we predicted *aggression* from implicit *commitment* ($M = 0$; $SD = 1$), *provocation* (*no provocation* = -0.5 , *severe provocation* = 0.5) and their interaction term. We also controlled for participant sex in our analysis (*female* = -0.5 , *male* = 0.5). We again employed Poisson regression procedures to account for the count-based nature of our dependent variable.

As predicted, the main effect of *partner provocation* was significant, $B = 1.02$, $t(50) = 4.78$, $p < .001$. Not surprisingly, participants who immersed themselves in the *severe provocation* situation stuck more pins into the voodoo doll representing their romantic partner ($M = 3.62$; $SD = 3.50$) than did participants who immersed themselves in the *no provocation* situation ($M = 1.52$; $SD = 2.43$). This main effect was qualified by a significant *Partner Provocation* \times *Commitment* interaction effect, $B = -1.02$, $t(50) = -4.09$, $p < .01$, an effect that was not moderated by participant sex. The main effect of implicit *commitment* was marginally significant in this analysis, $B = -0.25$, $t(50) = -1.71$, $p = .10$. No significant main effect or interactions involving participant sex emerged.

To clarify the nature of the *Partner Provocation* \times *Commitment* interaction effect, we examined the effect of *partner provocation* on aggression among participants who were low ($-1 SD$) and high ($+1 SD$) in implicit *commitment* (see Figure 3; Aiken & West, 1991). As predicted, participants who were low in implicit commitment exhibited significantly more aggression if they had been severely, versus mildly, provoked by their partner, $B = 2.04$, $t(50) = 5.32$, $p < .01$, whereas participants who were high in implicit commitment did not, $B = -0.003$, $t(50) = -0.01$, $p = .98$.

These results offer the first evidence that implicit relationship processes can buffer people from perpetrating aggression against a

romantic partner. Our use of an implicit measure of commitment reduced the likelihood that our effects were driven by self-presentation or self-consistency concerns. Indeed, despite the use of this new measure of commitment, the results of Study 3 closely mirrored those from Studies 1 and 2 (compare Figures 1–3). Commitment to one's relationship, whether it is assessed explicitly or implicitly, seems to buffer people from the negative consequences of partner provocation on aggressive tendencies toward that partner.

Study 4

The results of Studies 1–3 provided consistent evidence that commitment moderates individuals' tendencies to become aggressive toward a romantic partner who has provoked them. These studies employed laboratory procedures and experimental manipulations of partner provocation. Study 4 built upon these studies in two major ways. First, it employed diary procedures to examine naturally occurring levels of commitment and partner provocation every day for 35 days. Second, guided by I³ theory (Finkel, 2008; Finkel & Eckhardt, in press; Finkel & Slotter, 2009; Slotter & Finkel, 2011), it investigated whether our Instigator (partner provocation) \times Inhibitor (commitment) interaction effect was further moderated by an impellor: dispositional retaliatory tendencies (Fincham & Beach, 2002). We suggest that individuals who are low in retaliatory tendencies are likely to experience weak aggressive urges in response to partner provocation, thereby obviating the need to rely on their relationship commitment to override these urges. In contrast, individuals who are high in retaliatory tendencies are likely to experience strong aggressive urges in response to partner provocation, which increases the need to rely on their commitment to override these urges.

Method

Participants. Fifty-one undergraduate heterosexual dating couples (102 individuals) volunteered to take part in the current study for monetary compensation (\$150/couple). Participants were 18.76 years old ($SD = 1.17$) and had been dating their current partner for 20.55 months ($SD = 17.80$), on average. One couple broke up before the end of the study, so the final data set included 50 couples (100 individuals).

Measures.

Daily commitment. Participants completed a three-item measure of psychological *commitment* to their relationship that measured how much they felt "committed," "dedicated," and "loyal" toward their partner over the preceding 24-hr period ($-4 = far less than usual$, $0 = typical for me$, and $+4 = far more than usual$; $M = 0.50$, $SD = 1.27$; $\alpha = .95$).

Daily partner provocation. Participants also completed a two-item measure of partner provocation that measured how much their partner made participants feel "provoked" and "hostile" over the preceding 24-hr period ($-4 = far less than usual$, $0 = typical for me$, and $+4 = far more than usual$; $M = -0.90$, $SD = 1.53$; $\alpha = .93$).

Dispositional retaliatory tendencies. Participants also completed a three-item measure of their general retaliatory tendencies in their relationship that measured the degree to which they tended to enact negative behaviors, or attempts to "get even," when they

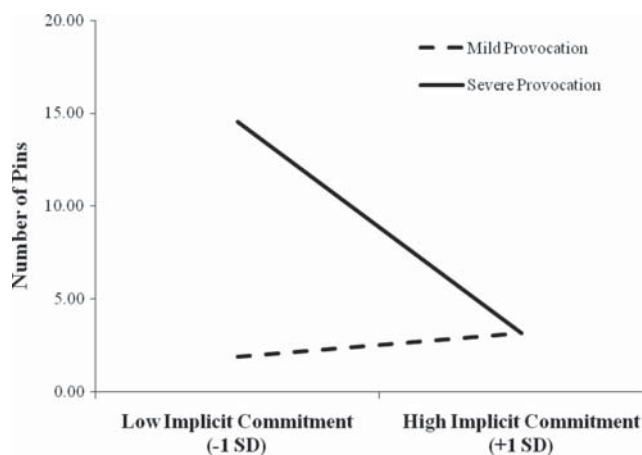


Figure 3. Study 3: Number of pins used as a function of implicit commitment and provocation.

felt provoked by their partner (e.g., “I think about how to even the score when my partner wrongs me”); 1 = *strongly disagree*, 6 = *strongly agree*; $M = 2.33$, $SD = 1.09$; $\alpha = .87$; Fincham & Beach, 2002).

Satisfaction. Participants also completed a well-validated measure of *satisfaction* in their relationship (e.g., “I feel satisfied with our relationship”); 1 = *strongly disagree*; 7 = *strongly agree*; $M = 6.19$, $SD = 0.72$; $\alpha = .86$; Rusbult, Martz, & Agnew, 1998). This control variable was included to allow us to establish that our predicted effects were robust beyond the contributions of the relationship positivity and warmth indicated by relationship satisfaction.

Daily aggression. Similar to Studies 2 and 3, participants were shown a voodoo doll that represented their romantic partner and asked to inflict harm on the doll as a way to get out any negative feelings they might be having. The use of the voodoo doll differed slightly in the current study from Studies 3 and 4. Because participants completed all measures in the current study online, participants were shown a picture of a voodoo doll that represented their romantic partner, rather than actually interacting with a voodoo doll in a laboratory setting. Participants selected the picture that represented the number of pins that they wished to stick in a voodoo doll. This voodoo doll task served as a proxy for *aggression* (e.g., DeWall et al., 2011), with a greater number of pins indicating more aggression toward the partner ($M = 1.89$, $SD = 6.68$).

Procedure. This study was part of a larger investigation of romantic relationships among college students. After completing intake procedures, which included the measures of retaliatory tendencies and satisfaction in their relationship, participants completed daily diaries for 5 weeks; these diaries included the daily measures of commitment, partner provocation, and aggression.

Results

Analysis strategy. To test the hypothesis that strong relationship commitment would weaken the aggression-promoting effect of partner provocation, especially for individuals characterized by strong retaliatory tendencies, we predicted daily *aggression* from standardized measures of daily feelings of *partner provocation*, daily feelings of *commitment*, dispositional *retaliatory tendencies*,

and all of their interaction terms. With predictor variables assessed daily, we employed a *within-person centering* approach, standardizing daily partner provocation and daily commitment around each person’s unique mean on that variable ($M = 0$, $SD = 1$). Hypothesis tests involving this strategy examine whether within-person fluctuations in these variables predict aggression after removing individual differences (within-person, across-day) in mean scores on that variable.

We standardized our between-person independent variable, dispositional *retaliatory tendencies*, around its mean in our sample ($M = 0$, $SD = 1$). Taken together, our centering procedures allowed us to examine the effects of individuals’ daily variations in *commitment* and *partner provocation*, as moderated by their dispositional *retaliatory tendencies*, on individuals’ daily aggressive tendencies toward their partner (see Table 1).

We again employed Poisson regression procedures to account for the count-based nature of our dependent variable. In addition, as in Study 2, our data were nested: Daily diary reports were nested within individuals and individuals were nested within couples (Raudenbush & Bryk, 2002). Thus, our data violated the standard assumption of independence in regression analyses (i.e., individuals’ ratings of commitment are more likely to be similar to each other over different daily diaries than they are to be similar to another person; individuals in couples might report more similar levels of commitment than two strangers). We employed multi-level modeling procedures to account for the nesting of daily diary report within individual and individual within couple (Raudenbush & Bryk, 2002).

Primary analyses. As predicted, the main effect of daily *partner provocation* was significant, $B = 0.27$, $t(50) = 4.51$, $p < .001$. Not surprisingly, higher daily levels of provocation corresponded with participants selecting more pins to use on the voodoo doll representing their romantic partner. Replicating the results from our previous studies, this main effect was qualified by a significant *Partner Provocation* \times *Commitment* interaction effect, $B = -0.12$, $t(50) = -3.00$, $p < .01$. Also, the main effect of *commitment* was significant in this analysis, $B = -0.23$, $t(50) = -3.52$, $p < .001$. Higher levels of daily commitment corresponded with participants selecting fewer pins to use on the voodoo doll representing their romantic partner.

Table 1
Study 4: Predicting Aggression From Partner Provocation, Commitment, and Retaliatory Tendencies

Parameter	<i>B</i>	<i>t</i>
Intercept	-1.49	-3.77***
Partner Provocation	0.26	4.51***
Commitment	-0.23	-3.52***
Retaliatory Tendencies	0.28	2.80**
Partner Provocation \times Commitment	-0.13	-3.00**
Partner Provocation \times Retaliatory Tendencies	0.04	0.73
Commitment \times Retaliatory Tendencies	-0.05	-0.78
Partner Provocation \times Commitment \times Retaliatory Tendencies	-0.11	-2.02*

Note. Because of the three-level nested structure of the data in Study 4, the value of the intercept becomes negative in the current analyses. This results in the predicted means for the current analyses all emerging with a value between zero and one when their exponential function is computed and graphed.

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

The main effect of dispositional *retaliatory tendencies* also emerged as significant, $B = 0.28$, $t(50) = 2.80$, $p < .01$. Higher levels of the general tendency to retaliate against their partner corresponded with participants selecting more pins to use on the voodoo doll representing their romantic partner. Most important, the inclusion of this impellor revealed a significant three-way *Partner Provocation* \times *Commitment* \times *Retaliatory Tendencies* interaction effect, $B = -0.11$, $t(50) = -2.02$, $p < .05$. No significant main effect or interactions involving participant sex emerged.

To clarify the nature of this three-way interaction effect, we examined the effects of the *Partner Provocation* \times *Commitment* interaction among participants who were low (-1 SD) and high ($+1$ SD) in dispositional *retaliatory tendencies* (see Figure 4). Consistent with expectations, the *Partner Provocation* \times *Commitment* interaction effect was nonsignificant among participants who were low in *retaliatory tendencies*, $B = -.02$, $t(50) = -0.23$, $p = .82$ (see Figure 4A), but it was significant among participants who were high in *retaliatory tendencies*, $B = -0.23$, $t(50) = -3.71$, $p < .001$ (see Figure 4B).

To examine this interaction further for participants who were high in *retaliatory tendencies* (see Figure 4B), we next examined

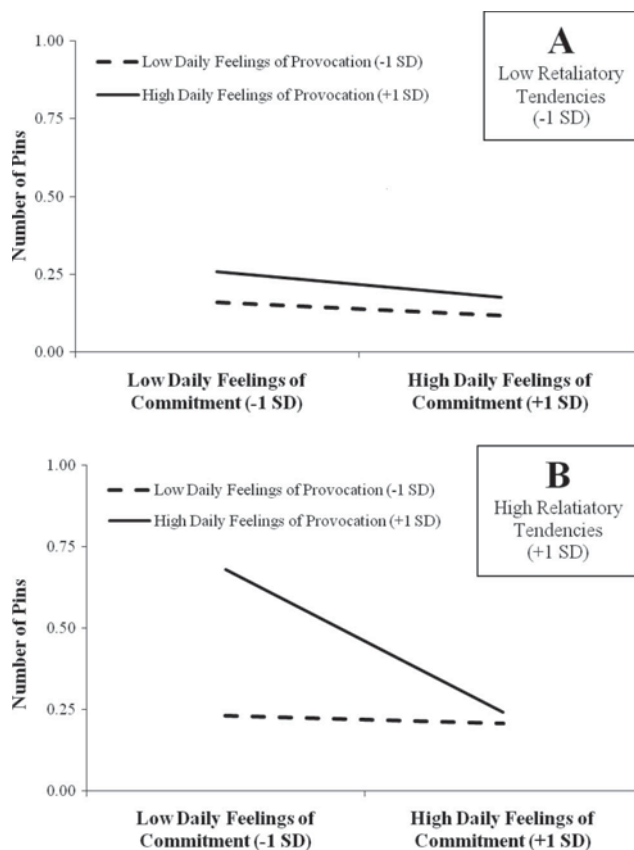


Figure 4. Study 4: Number of pins selected as a function of daily fluctuations in partner provocation, daily fluctuations in commitment, and dispositional retaliatory tendencies. Panel A presents the model-implied predicted means for individuals who were low in dispositional retaliatory tendencies (-1 SD). Panel B presents the model-implied predicted means for individuals who were high in dispositional retaliatory tendencies ($+1$ SD).

the simple effects of daily *partner provocation* on daily aggression among participants who were low (-1 SD) and high ($+1$ SD) in daily *commitment*. As predicted, the participants who were high in general tendencies toward retaliation but low in daily feelings of commitment exhibited significantly more daily aggression as their daily feelings of provocation by their partner increased, $B = 0.43$, $t(50) = 5.47$, $p < .01$, whereas participants who were high in general tendencies toward retaliation but also high in daily feelings of commitment did not exhibit this tendency, $B = -0.07$, $t(50) = -0.49$, $p = .62$.

Auxiliary analyses. As in Studies 1 and 2, we also sought to establish that these results were robust beyond the effects of participants' *satisfaction* in their relationship. Thus, we replicated our key model, this time also controlling for the standardized effects of participants' *satisfaction* and all interaction terms involving this covariate. Crucially, our central interaction between *Partner Provocation* \times *Commitment* \times *Retaliatory Tendencies* remained significant, $B = -0.15$, $t(50) = -2.26$, $p < .05$. In addition, although *satisfaction* did predict participants using fewer pins as a main effect, $B = -0.47$, $t(50) = -3.73$, $p < .001$, *satisfaction* did not moderate the *Partner Provocation* \times *Commitment* \times *Retaliatory Tendencies* interaction, $B = -0.03$, $t(50) = -0.49$, $p = .63$. Thus, the previously reported finding that strong, versus weak, relationship commitment predicts reduced aggression toward their partner after a severe provocation was not accounted for or moderated by participants' general feelings of positivity and warmth regarding their relationship.

Discussion

Study 4 provides the first evidence regarding the interplay among an instigator (partner provocation), an inhibitor (commitment), and an impellor (dispositional retaliatory tendencies) on aggression (see Finkel & Eckhardt, in press; Slotter & Finkel, 2011). As in Studies 1–3, the effect of partner provocation on aggressive tendencies toward the partner was moderated by relationship commitment, such that partner provocation increased aggression the most among participants low in commitment. Crucially, commitment mattered most for participants who generally respond to partner provocation with strong retaliatory tendencies and therefore need to put the brakes on their aggressive urges. Among participants who usually respond to partner provocation with equanimity, commitment did not influence their aggressive responses to partner provocation. These effects emerged when examining daily fluctuations in individuals' feelings of commitment and provocation, which suggests that the story is about relative increases or decreases in these variables from a given individual's baseline, rather than about individual differences in the tendency to score high versus low on these variables. The effects also emerged controlling for the relationship positivity and warmth associated with relationship satisfaction.

General Discussion

In romantic relationships, conflict and provocation are inevitable, and experiencing provocation by one's partner can trigger an urge toward retaliation, possibly even aggressive retaliation. The current research tested two hypotheses. The first hypothesis, which was tested in all four studies, was that the tendency toward

aggression in response to partner provocation is stronger among individuals who are weakly committed to their partner than among individuals who are strongly committed. The second hypothesis, which was grounded in I³ theory (Finkel, 2008; Finkel & Eckhardt, in press; Finkel & Slotter, 2009; Slotter & Finkel, 2011) and tested in Study 4, was that this Partner Provocation \times Commitment interaction effect would be moderated by dispositional tendencies toward retaliation. The logic underlying this hypothesis was that individuals who are low in the dispositional tendency to retaliate against their partner when provoked would experience weak aggressive urges when confronted with partner provocation and, thus, would not need to rely on their commitment to override these urges. In contrast, individuals who are high in this tendency would experience strong aggressive urges when confronted with partner provocation and, thus, would need to rely on their commitment to override these urges. Results from a methodologically diverse set of studies provided strong and consistent support for our hypotheses.

Commitment as Threat Management?

The findings from the current research raise an interesting question about the nature of psychological commitment to a romantic relationship. Specifically, is commitment similarly beneficial to relationships across all circumstances, or is it especially beneficial under specific conditions? Both perspectives have received substantial support from the empirical literature.

In support of the first perspective, commitment predicts a variety of relationship maintenance mechanisms. Some of these mechanisms include but are certainly not limited to perceiving greater cognitive overlap between the self and the romantic partner (Agnew, Van Lange, Rusbult, & Langston, 1998), being more willing to sacrifice for their relationship (Van Lange et al., 1997), engaging in greater accommodation during conflict (e.g., Rusbult et al., 1991; Rusbult, Bissonnette, Arriaga, & Cox, 1998), and being more forgiving of their partner's transgressions (e.g., Finkel et al., 2002).

Other research has built on the second perspective, in which commitment is a key factor in promoting relationship maintenance mechanisms especially when circumstances threaten the relationship. Strong, versus weak, commitment predicts individuals' tendencies to explicitly or implicitly derogate physically attractive alternative partners, who may pose a threat to the relationship, but not average looking alternative partners, who do not pose a threat to the relationship (D. J. Johnson & Rusbult, 1989; Maner, Galliot, & Miller, 2009). Strong, versus weak, commitment also predicts individuals perceiving their relationship as being superior to others', but only when experiencing a threat to their relationship, such as being told that the relationships of college students generally fail (Rusbult, Van Lange, Wildschut, Yovetich, & Verette, 2000). Thus, being committed to their romantic relationships may be beneficial to individuals especially (or perhaps only) when their relationship is threatened in some way.

The findings from the current research lend support to this second perspective. Across four studies, commitment reliably interacted with partner provocation, a potential threat to the relationship, to predict reduced aggression. Yet commitment inconsistently emerged as a main effect in our analyses. The current research, as well as the research discussed above, implies that

commitment is especially beneficial as a form of threat management. When experiencing a threat to their relationship, individuals who are strongly committed are better able think and act in ways that are beneficial to their romantic relationship than their less committed counterparts.

Implications and Future Directions

The current research has several practical and theoretical implications that suggest important directions for future research. From a practical standpoint, the current research may have implications for studying actual aggressive behavior in romantic relationships, perhaps even in relationships characterized by chronically high levels of aggressive behaviors. The current research does not directly address actual aggressive acts in relationships or examine relationships characterized by chronically high levels of aggressive behaviors. However, these are important directions for future research to investigate. Such research should specifically examine whether relationship commitment might serve as a similar inhibitor of actual aggressive behaviors in relationships, with a focus on populations who exhibit chronically high levels of aggression, such as individuals who are undergoing either self-selected or court-mandated therapy for aggression in their relationship.

If the current findings generalize to clinical populations, they may have important implications for therapeutic treatment and interventions aimed at reducing the number of aggressive behaviors that occur in relationships characterized by high levels of aggression. Interventions targeted toward interpersonal violence reduction are notoriously ineffective (e.g., Babcock et al., 2004; Dutton & Corvo, 2006). Thus, the development of new interventions based on increasing individuals' inhibitory ability during relationship conflict might be useful in preventing aggressive incidents arising from partner provocation. One possibility suggested by the current research would involve developing interventions to increase individuals' commitment to their relationship toward the goal of increasing their motivation to inhibit their aggressive urges when provoked. Increasing commitment in a clinical setting could perhaps be achieved by priming commitment during therapy sessions (see Finkel et al., 2002, for a commitment prime), providing exercises to increase individuals' feelings of commitment to their relationship, or simply encouraging individuals to focus on their feelings of commitment to their relationship.

Of course, increasing one or both partners' commitment to their relationship, especially if that relationship is characterized by high levels of aggression, certainly could be highly detrimental. For example, increased commitment to an aggressive relationship could result in nonvoluntary dependence on the relationship (Rusbult & Martz, 1995) or even a situation of "intimate terrorism" (M. P. Johnson, 1995, 2008). Such circumstances can result in severe psychological and physical harm to individuals, so we do not advocate blind efforts toward bolstering commitment levels in any relationship. However, increasing commitment to a relationship, insofar as it may help to inhibit negative responses to provocation, could be examined by future research as a potential way to improve the current state of clinical interventions aimed at promoting the inhibition of aggressive urges in relationships.

From a theoretical standpoint, the current research has implications for considering other factors, across different levels of analyses that might interact with individuals' commitment to predict

whether they override, or fail to override, their aggressive urges when confronted with partner provocation. The biological factors that may impel or inhibit aggressive tendencies in response to partner provocation represent an additional category of factors that might interact with commitment to predict aggression in response to provocation. Testosterone, for example, has a modest but reliable positive association with aggression (Archer, 1991; Book, Starzyk, & Quinsey, 2002) and a negative association with prosocial behavior (Zak et al., 2009). In contrast, the neuropeptide oxytocin is negatively associated with aggression (Lee, Ferris, Van de Kar, & Coccaro, 2009) and positively associated with trust and generosity (Barraza & Zak, 2009; Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005). Future research could examine how commitment might interact with individuals' levels of testosterone or oxytocin to predict aggressive responses to provocation. It is possible that commitment might be especially important in inhibiting aggressive responses to provocation for individuals who are high in testosterone, and perhaps less important for inhibiting aggressive responses to provocation for individuals who are high in oxytocin. These patterns would mirror the I^3 theory effects demonstrated in the Study 4 in the current research with regard to dispositional retaliatory tendencies.

In addition to biological factors that might moderate the buffering effect of commitment on aggression following partner provocation, sociocultural factors may play a role. For example, future research might examine whether the inhibitory effect of commitment on aggression in response to provocation is moderated by whether individuals are from regions associated with a culture of honor. People embedded in cultural systems that place a high value on honor and respect, such as the Southern United States and Brazil, tend to behave aggressively when their honor has been threatened (Cohen, Nisbett, Bowdle, & Schwartz, 1996; Vandello & Cohen, 2003). According to I^3 theory, people from "culture of honor" regions should benefit the most from high levels of commitment, because they may experience an especially strong urge to respond to partner provocation with aggression. Again, this pattern would mirror the I^3 theory effects demonstrated in the Study 4 in the current research with regard to dispositional retaliatory tendencies.

The current research also has implications for psychologists' theoretical understanding of how individuals override, or fail to override, the aggressive urges they may experience when provoked in their relationship. Specifically, the current findings provide evidence in support of I^3 theory (Finkel, 2008; Finkel & Eckhardt, in press; Finkel & Slotter, 2009; Slotter & Finkel, 2011). All four studies tested the role of *instigation* (provocation) and *inhibition* (commitment) in predicting aggression, and the fourth study added the role of *impellance* (dispositional retaliatory tendencies) to the analysis. Indeed, Study 4 represents the first ever empirical test of I^3 theory's crucial three-way interaction among instigation, inhibition, and impellance, and the pattern of results across all four studies revealed the prototypical interactions that are predicted by the theory (see Figures 1–4). Thus, the current studies can inform future researchers of I^3 theory in their search for appropriate operationalizations of *instigation*, *inhibition*, and *impellance* and in their theoretical framing and interpretation of their results.

Limitations and Strengths

There are several limitations of the current research. First, the participants were all undergraduate students and were all in heterosexual, dating relationships. Future research should examine whether the effects found in the current research extend to different age groups, socioeconomic strata, sexual orientations, or types of relationships (i.e., marriage).

Second, in the studies involving the voodoo doll task (Studies 2–4), we gave the participants instructions to use the task to release negative feelings toward their partner. We used these instructions to increase the odds that participants would believe the task was a necessary part of the procedure; however, they might have induced experimental demand. Although this issue probably cannot account for the interaction between commitment and provocation that emerged across all three studies, and although other research suggests that the voodoo doll task functions similarly regardless of whether these instructions are present versus absent (DeWall et al., 2011), it would be useful to replicate our studies in future research with these instructions omitted.

Third, the current research assessed partner provocation, commitment, retaliatory tendencies, and aggression from only one individual's perspective. Future research would benefit from examining the dynamic between both partners' commitment and perceptions of provocation in predicting aggression. For both of these factors, concordances and discordances between the partners' feelings of commitment or perceptions of provocation might differentially influence aggressive tendencies within the relationship. For example, if one partner is less committed than the other, that relationship may be more prone to aggression when the less committed partner feels provoked, even if the other partner is highly committed.

Fourth, commitment was assessed across the four studies with varied methods; however, it was never manipulated experimentally. Although the current research rules out relationship satisfaction as an alternative explanation for our effects and the within-person centering strategy used in Study 4 examined daily fluctuations in commitment, future research could employ experimental procedures to examine whether manipulated changes in commitment can strengthen or weaken individuals' ability to resist aggressive urges when provoked by their partner.

Fifth, the current research examined individuals' cognitive experiences and verbal expressions of aggression as well as laboratory proxies of aggressive behavior in the relationship. It did not examine naturally occurring instances of aggression within relationships. Although the use of laboratory-based experimental paradigms and behavioral analogues for aggression added strength to the current research as they afforded us greater empirical control, it does limit our ability to make claims regarding actual instances of aggression in relationships. Future research could fruitfully extend the current findings to examine whether commitment functions similarly to inhibit actual aggressive responses under provoking relationship circumstances.

There are also several strengths of the current research. First, the methodology used in the studies spanned manipulations and measures developed within multiple psychological traditions. Study 1 adapted manipulations from clinical psychology to examine individuals' in-the-moment experiences as observed by objective coders, and it used an objectively coded measure of commitment.

Studies 2 and 3 employed experimental manipulations of provocation derived from the social psychological tradition, and they used both implicit and explicit measures of commitment. Study 4 employed diary methods, which are popular in both clinical and social psychology. Second, the current research also examined aggression toward one's romantic partner across multiple levels of analysis. Specifically, it examined cognitive, in-the-moment, aggressive responses (Study 1), and it employed an ethical, yet ecologically valid, way of assessing aggressive behaviors (Studies 2–4; see DeWall et al., 2011; Pronin et al., 2006). Third, the current studies examined the effects of commitment and provocation in predicting aggression beyond the effects of relationship positivity and satisfaction (Studies 1, 2, & 4) and anger (Study 1). Despite the methodological diversity and statistical controls, our studies yielded consistent, robust effects.

Conclusions

The current investigation demonstrated the importance of relationship commitment for diminishing aggression in response to partner provocation. That commitment is especially important (a) when provocation is severe (Studies 1–4) and (b) among individuals who have strong retaliatory tendencies (Study 4) underscores its importance in putting the brakes on aggression. Commitment most powerfully predicts nonaggressive behavior precisely when aggressive urges are strongest, which makes it an especially important factor for understanding how people resist aggressive behavior, even when they might be inclined to act aggressively.

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