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Social Dominance and Conciliatory Gestures as Determinants of Reconciliation and Forgiveness

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UNIVERSITY OF MIAMI

SOCIAL DOMINANCE AND CONCILIATORY GESTURES AS DETERMINANTS
OF RECONCILIATION AND FORGIVENESS

By

Adam Cohen

A THESIS

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Master of Science

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SOCIAL DOMINANCE AND CONCILIATORY GESTURES AS DETERMINANTS
OF RECONCILIATION AND FORGIVENESS

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Social Dominance and Conciliatory Gestures
As Determinants of Reconciliation and Forgiveness

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In this project I evaluated the effect of social dominance on reconciliation and forgiveness. Based on studies of nonhuman primates, it was hypothesized that humans would be more likely to accept and reciprocate conciliatory gestures when made by more socially dominant people. It was also hypothesized that the moderating effect of relative dominance on a victim's decision to forgive would not be as strong as relative dominance's effect on a victim's decision to reconcile. This hypothesis was based on the expectation that reconciliation is most essential for gaining access to transgressor-controlled resources. However, conciliatory gestures by less dominant transgressors more effectively elicited forgiveness and reconciliation, as these gestures were evidently more successful at making victims feel safe. Also, relative dominance did not have a greater effect on victims' conciliatory behaviors than on forgiveness.

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Chapter 1: Introduction

As long as humans have competing goals, conflict will remain an inevitable part of human relationships. It is the negative effects of conflict that make its pervasiveness so significant. Unresolved conflict has not only been shown to bring about negative cognitions, feelings, and behaviors toward the offender, but has also been shown to affect interpersonal relationships through reductions in prosocial thinking and reductions in the general feeling of relatedness toward others (Karremans, Van Lange, & Holland, 2005). In team settings, relationship conflict has a strong negative correlation with both team performance and team member satisfaction (De Dreu & Weingart, 2003). Family conflict has been shown to cause psychological distress in children and to increase their likelihood of developing problems with self-esteem (Farber, Felner, & Primavera, 1985), suicidal ideation (Asarnow, 1992), and adjustment (Grych & Fincham, 1993). Furthermore, prolonged interpersonal conflict has been linked to many negative psychological and physical effects for those involved in conflict, such as fatigue, depression, apathy, impaired concentration, cardiovascular disease risk, and impaired memory (Erickson, Drevets, & Schulkin, 2003; Lawler et al, 2003; Butovskaya, Boyko, Selverova, & Ermakova, 2005).

Though conflict has been shown to have these effects on individuals, dyads, families, and groups, these negative effects may be either mitigated or undone through reconciliation and forgiveness. Reconciliation is defined as a “friendly reunion between opponents” that “supposedly serves to return the relationship to normal levels of tolerance and cooperation” (de Waal & Pokorny, 2005, p .17). Thus, reconciliation here

refers to a behavior, whereas forgiveness refers the internal process of ceasing to feel resentment, or ill will, against an offender (McCullough, Worthington, & Rachal, 1997).

Both reconciliation and forgiveness, however, may have substantial positive effects. The apparent benefits of forgiving include not only reduced feelings of anxiety, depression, and hostility within the forgiver, but also reduced sympathetic nervous system arousal when people think about or discuss harmful interpersonal events they have suffered (Lawler et al., 2003). Furthermore, forgiveness has been shown to facilitate reconciliation (McCullough et. al, 1997; Tsang, McCullough, & Fincham, 2006). In fact, some (e.g., McCullough, 2008) posit that facilitating reconciliation is the main evolutionary function of forgiveness.

One prevalent theory in the nonhuman primate literature hypothesizes that reconciliation primarily serves to preserve valuable relationships (Cords & Aureli, 1996). Another theory argues that reconciliation helps individuals regain access to resources that would be dangerous and stressful, and perhaps impossible, to exploit otherwise (Silk, 2002). Though researchers may be divided on the main purpose of reconciliation—perhaps because its effects are different across species—it is generally agreed that reconciliation can repair the negative effects of conflict (Aureli & de Waal, 2000; Silk, 2002; Karremans et. al, 2005). If the negative effects of conflict can be either partially or completely repaired through reconciliation, then it is worth investigating why humans do not reconcile more often.

Research on non-human primates may help answer this question. De Waal and van Roosmalen (1979) found that, after conflicts, most of the captive chimpanzees (*Pan troglodytes*) in their sample had affiliative interactions within the two minutes after the

conflict ended. In fact, chimpanzees' mean rate of affiliative interactions immediately following an agonistic interaction was significantly higher than the mean rate of the same behaviors immediately preceding agonistic interactions. De Waal and van Roosmalen (1979) interpreted this to mean that conflict makes chimpanzees more attracted to each other. Furthermore, by resolving conflict so quickly, they manage to avoid most of conflict's negative psychological, physical, and social effects. With rapid conflict resolution being so potentially beneficial, it is not surprising that, out of roughly thirty primate species that have been studied, only a handful of them do not seem to exhibit any reconciliatory behavior (Aureli & de Waal, 2000). Better understanding of the mechanisms underlying such rapid reconciliation may help explain why it is not as prevalent in humans as it appears to be in chimpanzees.

Silk (2002) and other scientists hypothesize the demonstration of an opponent's benign intent is a main facilitator of reconciliation in non-human primates. Without knowing an opponent's intentions after a conflict, further contact with that opponent could be dangerous. Being in close proximity to an opponent is especially problematic when the opponent is dominant, since the dominant opponent has more means for inflicting harm. Nonhuman primates seem to realize this fact of dominance relationships, as captive long-tailed macaques (*Macaca fascicularis*), for example, are normally less willing to drink when they are close to a higher-ranking opponent with whom they have not reconciled (Cords, 1993). Knowing an opponent's intentions therefore appears to be very important to nonhuman primates, since it can help them regain access to resources and avoid unnecessary stress.

Stress, as indexed by increased by behaviors such as yawning and self-scratching, is one of conflict's common negative effects. This stress can be fairly debilitating. Aureli (1997) hypothesized that the increased post-conflict stress levels are due the animals' awareness of the possibility of post-conflict hostility. Even dominant opponents who have just won a conflict exhibit increased stress, possibly due to their awareness of the potential for subordinate opponents to recruit others to aid them in continuing the conflict. Furthermore, even if the subordinate victims retaliate, the aggressors will not be able to reap the benefits of any joint activities with their victims, such as grooming or mating, until they reconcile. Thus, for example, even for a dominant baboon that has just asserted her dominance by striking a subordinate, it is still in her best interest to reconcile with her subordinate (De Waal, 2000). Whereas the risk that a subordinate encounters by attempting to reconcile with the dominant baboon may outweigh her desire to reconcile, the dominant baboon can offer a conciliatory signal without as much risk. This is because the subordinate baboon is less inclined toward, and more poorly suited for, escalating the conflict. The low cost of attempting to reconcile with a subordinate may explain why dominant animals often initiate friendly contact after conflicts (de Waal, 2000).

Signals of benign intent from more dominant opponents generally seem to be sincere (i.e. non-deceptive) gestures that facilitate social interactions. A study of female baboons found that higher-ranking females who grunted at lower-ranking females when approaching were less likely to supplant them and more likely to engage in friendly interactions than when they approached in silence. Grunting, therefore, seems to be an honest signal of benign intent. This study also found that grunting serves to mollify more subordinate females. Following attacks by dominant females, subordinate self-scratching

in response to screams by the dominant attackers significantly increased when the dominant baboons did not grunt at their subordinates in the minutes following an attack. This is thought to indicate that the subordinate baboons were comforted by the dominant baboons' conciliatory grunting (Silk, 2002). The subordinate baboons then usually resumed peaceful interactions with their aggressors. The subordinates are often invested enough in reconciling to approach their aggressors, even though the aggressors initiated the conflict (Judge, 1991). By demonstrating benign intent toward their aggressors, the subordinates therefore avoid the negative emotional and environmental stress that conflict would have otherwise imposed upon them. Subordinate victims are, in fact, so inclined toward reconciling with their dominant aggressors that the dominant individuals' benign gestures do not even seem like requests for forgiveness: They seem more like signals that the aggressors are ready for peaceful interactions to resume (Silk, 2002).

Signals of benign intent are not only found in baboons. Instead, they extend throughout the primate order. Whereas baboons grunt to signal their benign intent, other species use different signals that have a similar conciliatory effect. Chimpanzees generally kiss one another (de Waal & van Roosmalen, 1979), stumptailed macaques perform hold-bottom rituals (de Waal & Ren, 1988), and bonobos engage in sexual behavior (de Waal, 1987). If the majority of primates, through the displaying of benign gestures, can resume social interactions with subordinates they have recently attacked, it is worth investigating why human gestures for reconciliation do not appear to lead to such rapid reconciliation.

Though humans do not reconcile as quickly, it is not due to a lack of a repertoire of conciliatory gestures. Humans have a very large palette of conciliatory gestures, which

includes verbal apology, self-deprecation, sharing, hugging, and invitations to participate in pleasurable joint activities (Butovskaya *et al.*, 1999). In fact, humans have devised many more clever and subtle conciliatory strategies than the other primates have. If it is not lack of options, then, that prevents humans from rapid reconciliation, perhaps the key differences have to do with the vary nature of our social relationships.

Specifically, it seems likely that the steeper and more rigid social hierarchies of other primate living groups are a key factor in facilitating rapid conflict resolution. Most primate groups live in environments with limited resources that tend to produce frequent conflicts of interest. To lessen the probability that these conflicts of interest will escalate to dangerous physical aggression, the individuals settle into dominance hierarchies. . . Signals of submissiveness by the subordinate individuals and signals of benign intent by the dominant individuals increase mutual tolerance and cooperation under conditions of resource scarcity. Subordinate individuals in certain environments can use the ability to withhold resources, known as leverage, to force more dominant individuals into relaxing dominance (Preuschoft & van Schaik, 2000). Dominant individuals, however, invariably have more control over the group's resources, and consequently have more leverage. Since individuals do not have easy access to vital resources controlled by other individuals with whom they are in conflict, the cost of refusing to reconcile increases as the opponents' control over resources increases. For this reason, offers of reconciliation by more dominant individuals are more enticing than similar offers extended by subordinate individuals.

In contrast, many factors in human societies, such as societal norms, laws, and cooperative enforcement of group harmony (Boehm, 1999), constrain dominant

individuals from fully exercising their dominance. Nevertheless, dominance may continue to influence humans' decisions to accept conciliatory gestures despite these unique features of human societies. For example, an experimental investigation of humans' responses to conciliatory strategies found that dominance did, in fact, affect participants' decisions to cooperate with their experimental partners. Lindsfold and Aronoff (1979) constructed a modified prisoner's dilemma in which participants' relative power, in terms of control over their partner's outcome, was less than, equal to, or greater than the power of their simulated partners. With the goal being to earn the most points, participants completed thirty trials with simulated partners (who, they were led to believe, were real human opponents) and were given the option of either acting cooperatively or competitively during each trial. After ten trials of fifty percent cooperation from the simulated partners, half of the participants within each of the three relative power groups were either given or not given a handwritten note of intent to cooperate.

As hypothesized, simulated notes of intent to cooperate effectively increased participants' cooperation, but only when sent by a subject of greater or equal power. Lindsfold and Aronoff (1979) speculated that notes of intent sent by those of higher power were more effective than notes sent by those of lower power because invitations to cooperate that were sent by participants of higher power were too potentially valuable to be ignored. This hypothesis is almost identical to the aforementioned reasoning behind primates' increased likelihood of cooperating after signals of benign intent when those signals were made by a more dominant opponent. One might conjecture that Lindsfold and Aronoff's experimental design lacked the emotional factors that humans generally take into account when deciding whether or not to reconcile with someone who has

wronged them. Several studies, however, have found that the effect of dominance on conflict resolution was also important in more emotionally charged environments that more realistically reflect the social dilemmas that modern humans face on a day-to-day basis.

The workplace is one such environment in which dominance exerts a substantial effect on relationships. As hierarchies within work settings are generally steeper, and therefore may bear a stronger resemblance to many nonhuman primate social hierarchies, it seems likely that research on workplace conflict could provide information concerning the importance of hierarchy in influencing the outcomes related to forgiveness and reconciliation. In a study of 159 government service agency employees, Aquino, Tripp, and Bies (2001) found that the positive relation between blame attribution and revenge behavior was significantly weaker when the offender had higher status than the victim. However, they did not find that the negative relationship between blame attribution and reconciliation was significantly weaker when the offender has a higher status than the victim. Such a latter finding would have been consistent with the idea that low-status individuals are more inclined to reconcile. A potential reason for this is that their study did not differentiate reconciliation from forgiveness. Perhaps a weaker negative relationship between blame attribution and reconciliation for less dominant individuals would have been found had the questions the researchers used to measure reconciliation more closely approximated reconciliation as we have defined it here—which is to say, in strictly behavioral terms. Items that Aquino, Tripp, and Bies used to measure reconciliation include, “I gave them back a new start, a renewed relationship;” “I accept them;” and “I tried to make amends.” It would seem, however, that an employee could

reconcile with his or her boss, or “return the relationship to normal levels of tolerance and cooperation” (de Waal, & Pokorny, 2005, p. 17), without endorsing such items. For this reason, it would be worthwhile to explore the effect of dominance on both reconciliation and forgiveness as separate factors.

In another study, Butovskaya and Kozintsev (1999), found that 6- and 7-year-old Russian schoolchildren, like adult non-human primates, also tend to reconcile in the minutes following a conflict. Furthermore, they found that aggressors were more likely than their victims to initiate reconciliation. Though there are several similar studies that investigated children’s conciliatory gestures (Verbeek, 1997; Ljungberg et al, 1999), none has investigated the role of social dominance. In writing about their study at a later date, Butovskaya and colleagues (2000) mentioned the importance of research focusing on “possible relationships among structural dimensions of peer groups, such as dominance relations and peer status, and peacemaking” (p. 255).

The Current Study

The current study was intended to provide insight into this very issue. Specifically, the objective of the present study was to assess the effect of social dominance on reconciliation and forgiveness in humans. Based on previous studies of nonhuman primates, I hypothesized that despite the fact that natural social dominance hierarchies among humans are more egalitarian than are those of non-human primates, human adults also tend to more readily accept and reciprocate conciliatory gestures when made by more socially dominant people. In other words, I hypothesized that the relationship between transgressors’ conciliatory gestures and victims’ conciliatory efforts is moderated by relative dominance, such that higher transgressor dominance makes

transgressors' conciliatory gestures more effective in eliciting reconciliation from victims. I also hypothesized that the moderating effect of relative dominance on victims' decisions to *forgive* conciliatory transgressors would not be as strong as relative dominance's effect on victims' decisions to *reconcile* with conciliatory transgressors. This latter hypothesis was based on the expectation that reconciliation is the essential element to gaining access to transgressor controlled resources (e.g. social groups and status), and that forgiveness per se adds no increase in access to these resources. I also evaluated whether participants' feelings of safety in the presence of their transgressors helped to explain the effects of conciliatory gestures, relative dominance, and their interaction, on reconciliation and forgiveness.

Chapter 2: Method

Participants

Participants were part of a large longitudinal study. Of the 205 undergraduates enrolled in the study, 97 participants completed all of the necessary measures for the present study. The mean age of the study participants was 19.0 (SD = 1.5), the modal gender was female (69%), and the modal racial identification was White (73%). Also, 17% of participants identified themselves as racially African American, 7% identified themselves as racially Asian, and 22% of participants identified themselves as ethnically Hispanic. All participants indicated that someone they knew had done something to them within the previous 7 days that they considered both wrong and potentially hurtful. The plurality of transgressions were committed by boyfriends/girlfriends (43%); smaller percentages were committed by friends of the same gender (19%), family members (11%), friends of the other gender (7%), and casual dating partners (7%). The remaining 13% of transgressors had other types of relationships with participants. Participants cited numerous types of transgressions, including infidelity by a spouse or romantic partner (27%), betrayals of a confidence or insults by a friend (18%), termination of romantic relationship (14%), rejection or abandonment by a friend or prospective relationship partner (13%), rejection, neglect, or insult by a family member (8%), neglect by a romantic partner, spouse, or ex-romantic partner (6%), insult or betrayal by people other than family or friends (6%), or other types of transgressions (8%). Upon completing the entire study, each received course credits in their introductory psychology course and/or up to \$100 depending on how many elements of the longitudinal study they completed.

Measures

Revised Transgression Appeasement and Reconciliation Questionnaire (TARQ II). The TARQ II is a 41-item questionnaire that measured participants' perceptions of the extent to which their offenders made each of 41 different conciliatory gestures following the offense (see Appendix A). Using a five-point Likert-type scale (1 = *Not at all* and 5 = *To a great extent*) participants were asked to "indicate (by circling a single number for each item) the extent to which the person who hurt [them] did the following things towards [them] since the offense occurred" (e.g., "Try to hug you or hold your hand," "Offer to share something with you," "Express disapproval with himself/herself because of what he/she did to you").

The TARQ II has not been used extensively in previous studies, so before proceeding I conducted some basic item analyses (e.g., item means, variances, intercorrelations, and internal consistency estimates of item aggregates) to assist in deciding how to combine the 41 items into summary scores. Ultimately, participants' responses to all 41 items were averaged, with higher scores reflecting greater conciliatory effort on the part of the transgressor. This scale had an internal consistency reliability of $\alpha = .96$.

Revised Interpersonal Adjectives Scale. The Revised Interpersonal Adjectives Scales (IAS-R) was used to measure participants' perceived dominance relative to their transgressors. The IAS-R is a 64-item self-report questionnaire that operationalizes eight interpersonal traits (assured-dominant, arrogant-calculating, cold-hearted, aloof-introverted, unassured-submissive, unassuming-ingenuous, warm-agreeable, and gregarious-extraverted) (see Appendix B). Items were summed to derive two orthogonal

dimensions—affiliation, which approximates Big Five Agreeableness, and dominance (alternatively called Agency). The dominance factor was found to correlate with extraversion, but differs from extraversion to the extent that dominance does not contain the “nurturance” factor included in extraversion (Trapnell & Wiggins, 1990). In describing themselves and their transgressors, participants were asked to rate the accuracy of each adjective on an eight-point Likert scale that ranges from “extremely inaccurate” to “extremely accurate.” IAS-R scales have internal consistency reliability estimates that have ranged from $\alpha = 0.71$ to $\alpha = 0.88$ in previous work (Wiggins *et al.*, 1988). We summed the items loading on the dominance factor to derive self-ratings of participants’ dominance and ratings of their perceptions of the dominance of their transgressors. Then, we measured relative dominance by subtracting the transgressor’s perceived dominance score from the participant’s self-rated dominance score. Larger difference scores therefore indicated that the transgressor was perceived as more dominant than the participant perceived himself or herself.

Transgression-Related Interpersonal Motivations (TRIM) Inventory –18-Item Form. To measure forgiveness, we used McCullough *et al.*’s (1998) Transgression Related Interpersonal Motivations (TRIM) Inventory (see Appendix C). This scale, which conceptualizes forgiveness as reduction in one’s negative interpersonal motivations toward a transgressor and restored positive interpersonal motivations toward that transgressor, measures three separate motivational constructs: avoidance, revenge, and benevolence. Motivation to avoid the transgressor was measured with a 7-item Avoidance subscale (e.g., “I am trying to keep as much distance between us as possible.”). Motivation to seek revenge was measured using a 5-item Revenge subscale

(e.g., “I’m going to get even.”). The Avoidance and Revenge subscales have been shown to have moderate test-retest reliability, high internal consistency, and adequate construct validity (McCullough et al., 1998, 2001). Amicable motivations toward the transgressor were measured using the more recently added Benevolence subscale, which had been shown to have good reliability as well (McCullough, Fincham, & Tsang, 2003).

Participants endorsed items with a five-point Likert-type scale (1 = *strongly disagree* and 5 = *strongly agree*). The scale was scored by averaging responses after reverse scoring the avoidance and revenge items. Thus, higher scores indicate more forgiveness.

Victims’ conciliatory effort. A 10-item measure was created to evaluate participants’ degree of conciliatory effort toward their transgressors—as distinct from forgiveness as measured by the TRIM-18 (see Appendix D). Ten behaviorally oriented items aimed at measuring participants’ levels of cooperation and prosocial interactions with their transgressor were evaluated (e.g. “Cooperated with him/her in accomplishing some sort of task”, “Since the offense occurred, to what extent have you avoided physical contact with him/her?”) using a Likert-type scale (1 = *not at all* and 5 = *very frequently*). The scale was scored by adding responses after accounting for reverse scoring. Thus, higher scores signified a higher level of conciliatory effort by victims toward their transgressors. This scale had an internal consistency reliability of $\alpha = .88$.

Perceived safety vis à vis the transgressor. The extent to which victims felt safe around their offenders following the transgression was measured using a Likert-type item (1 = *completely disagree* and 7 = *completely agree*) that read, “It’s safe for me to let my guard down around him/her.” Thus, higher scores indicated higher perceived safety and ease around the transgressor.

Closeness/Commitment. Participants' subjective feelings of closeness with their transgressors before the offense were measured using a 11-item scale. This measure included four questions to gauge feelings of emotional closeness, commitment, and importance (e.g. "On a scale from 0 to 6, please indicate how close you were to the person who hurt you before the offense.") using a 7 point Likert-type scale. The remaining 7 questions, measured on an 11 point Likert-type scale, were selected from a previously validated measure of communal strength (Mills *et al.*, 2004). These latter seven items assessed the level to which the victim would have previously helped or sacrificed for the transgressor (e.g. "How large a cost would you have incurred to meet a need of ____."). Thus, higher scores signify higher levels of perceived closeness with and commitment to the transgressor prior to the transgression. This scale had high internal consistency reliability, $\alpha = .96$.

Perceived transgression severity. A 12-item measure was used to assess how severe the participant perceived the transgression to have been. This measure included four questions measuring perceived wrongness of the transgression (e.g. "Right now, how intentional do you think his/her behavior was? To what extent did he/she do it on purpose to hurt you? (circle one number)") using a 7 point Likert-type scale. The remaining items asked about how harmful and severe the offense was to the victim (e.g. "To what extent do you feel that the offense was:" "Serious," "severe," "harmful to you"...). The scale was scored by averaging responses after accounting for reverse scoring. Thus, higher scores signify higher levels of perceived transgression severity. This 12-item composite had an internal consistency reliability of $\alpha = .83$.

Procedure

Recruitment. Participants were recruited through the University of Miami's psychology department courses. Research assistants handed out enrollment packets to all students interested in the study after hearing in-class recruitment presentations. Students were also able to enroll by registering online and then picking up an enrollment packet outside of Michael McCullough's laboratory.

Completion of the questionnaires. Students filled out an enrollment packet that included the TARQ II, the TRIM, and the self-rating and transgressor-rating forms of the Revised IAS, the measure of pre-transgression closeness/commitment, and the measure of transgression severity shortly after enrolling in the study. Once enrollment packets were completed and returned, were reviewed to ensure that the enrollment criteria were completely met. Those who qualified were emailed a link to an online version of the TRIM, which they completed online and submitted. A paper version of the victim conciliatory effort scale and the perceived safety item were administered in the laboratory approximately 4 weeks after enrolling in the study.

Chapter 3: Results

Means, standard deviations, and internal consistency reliabilities for major study variables appear in Table 1. The correlations among major study variables appear in Table 2.

Preliminary Analyses

After confirming that the measures had acceptable levels of internal consistency, I examined the relations among the criterion variables (forgiveness and reconciliation) and several potential confounding variables (participants' ratings of transgression severity, pre-transgression closeness/commitment, and participant gender). Severity, closeness, and gender were not significantly correlated with relative dominance, transgressor conciliatory gestures, or their interaction. Therefore, I did not consider these variables further as potential confounds and did not include them in further analyses (MacKinnon et al., 2000).

Effects of Relative Dominance on Receptiveness to Conciliatory Gestures

Next, I examined whether relative dominance and transgressors' conciliatory gestures interacted to predict reconciliation. Based on Holmbeck's (1997) suggestion, reconciliation was simultaneously regressed on (mean-centered) transgressor conciliatory gestures, (mean-centered) relative dominance, and their product-term interaction. As Table 3 shows, relative dominance ($\beta = .25$) was not a significant predictor of victims' conciliatory effort, $p > .05$. However, transgressor conciliatory gestures significantly predicted victim conciliatory efforts ($\beta = .52, p < .01$), with more transgressor conciliatory gestures leading to more victim conciliatory effort. Furthermore, the interaction of relative dominance and transgressor conciliatory behavior significantly

predicted victim conciliatory gesture ($\beta = -.45, p < .05$). This interaction indicates that as the transgressors' relative dominance increased, their conciliatory gestures were less effective in bringing about victim reconciliation.

To better understand the nature of this interaction, dominance was divided into three groups of equal size based on relative dominance score (less dominant transgressor, equal dominance, and high dominance transgressor). Then, victim conciliatory effort was regressed on (mean-centered) transgressor conciliatory gestures for each of the three relative dominance groups. Figure 1 displays the resulting intercepts and slopes for each of three relative dominance groups. As Figure 1 shows, the association of transgressors' conciliatory gestures on reconciliation was minimal for high-dominance transgressors, and much steeper for low-dominance transgressors. In other words, the effect of transgressor conciliatory gestures was stronger for transgressors who were perceived to be less dominant than their victims perceived themselves to be.

I then investigated whether relative dominance and transgressor conciliatory gestures interacted to predict forgiveness. Forgiveness was simultaneously regressed on (mean-centered) transgressor conciliatory gestures, (mean-centered) relative dominance, and their product-term interaction. As Table 4 shows, relative dominance ($\beta = .26$) was not a significant predictor of forgiveness, $p > .05$. However, transgressor conciliatory gestures significantly predicted forgiveness ($\beta = .31, p < .01$). Also, the interaction of relative dominance and transgressor conciliatory gesture was a significant predictor of forgiveness ($\beta = -.46, p < .05$). Thus, as transgressors' relative dominance increased, their conciliatory gestures were less effective in bringing about forgiveness.

To better understand the nature of the interaction, participants were again divided into three groups of equal size (less dominant transgressor, equal dominance, and high dominance transgressor), and separate regressions of victim reconciliation behavior on (mean-centered) transgressor conciliatory gestures were estimated. As Figure 2 illustrates, the association of transgressor conciliatory gestures with forgiveness was minimal for high-dominance transgressors, and considerably stronger for low-dominance transgressors. Thus, the effect of transgressor conciliatory gestures on forgiveness was stronger among low-dominance transgressors than among high-dominance transgressors.

Mediating Effects of Victim Safety

In keeping with the criteria outlined by MacKinnon et al. (2000) for evaluating mediational hypotheses, I examined the association of safety with transgressor conciliatory gestures and the interaction of transgressor conciliatory gestures and relative dominance. I did so by simultaneously regressing safety on (mean-centered) transgressor conciliatory gestures, (mean-centered) relative dominance, and their product-term interaction. Results of these analyses appear in Table 5. Transgressor conciliatory gestures ($\beta = .286$) significantly predicted victim safety ($p < .01$). The interaction of relative dominance and transgressor conciliatory gestures ($\beta = -.417$) was an almost-significant predictor of perceived safety ($p = .058$). Therefore, it seemed plausible that perceived safety mediated the association of conciliatory gestures and the conciliatory gestures–relative dominance interaction with forgiveness and reconciliation.

I then evaluated whether victims' sense of safety in the presence of their transgressors explained the apparent effects of transgressor conciliatory gestures and the conciliatory gestures–relative dominance interaction on victim conciliatory effort. To do

so, victim conciliatory effort was simultaneously regressed on (mean-centered) safety, (mean-centered) transgressor conciliatory gestures, (mean-centered) relative dominance, and their product-term interaction of transgressor conciliatory gestures and relative dominance. The interaction of conciliatory gestures and relative dominance became non-significant ($\beta = -.136, p > .05$), although association of transgressor conciliatory gestures and victim conciliatory effort remained significant ($\beta = .33, p < .01$). In addition, the association of perceived safety and victim reconciliation was significant ($\beta = .59, p < .01$). This suggests that less dominant transgressors' conciliatory gestures were more effective at bringing about victim reconciliation because those gestures were better at bringing about a sense of safety and ease within victims (see Table 6).

I also investigated whether victim's sense of safety explained the apparent effect of transgressor conciliatory gestures and the interaction of transgressor conciliatory gestures and relative dominance in predicting forgiveness. To do so, forgiveness was simultaneously regressed on (mean-centered) safety, (mean-centered) transgressor conciliatory gestures, (mean-centered) relative dominance, and the product-term interaction of transgressor conciliatory gestures and relative dominance. In this regression, transgressor conciliatory gestures no longer predicted forgiveness ($\beta = .152, p > .05$). I also found that the interaction of conciliatory gestures and relative dominance was no longer significant ($\beta = -.265, p > .05$). Safety, however, was a significant predictor of forgiveness ($\beta = .577, p < .01$). This suggests that less dominant transgressors' conciliatory gestures may have been more effective at bringing about forgiveness because those gestures more effectively brought about a sense of safety and ease within the victim (see Table 7).

Chapter 4: Discussion

Conflict is an inevitable part of human relationships. However, a variety of recent research studies suggest that many of its negative effects can be mitigated through forgiveness and reconciliation (McCullough et. al, 1997; Tsang, McCullough, & Fincham, 2006). Forgiveness has also been found to reduce anxiety and depression, and has also been associated with lower blood pressure levels, heart rate, and rate pressure product (Lawler et al., 2003). Many nonhuman primates tend to have affiliative interactions within the two minutes following a conflict. One explanation that is commonly invoked in the primate literature to explain the presence of these conciliatory behaviors in nonhuman primate social interactions is that reconciliation helps individuals to preserve valuable relationships.

Silk (2002) and other researchers believe that the demonstration of an opponent's benign intent is a main facilitator of reconciliation in these primates, and that signals of benign intent from the more dominant opponent seem to help facilitate social interactions. The steeper and more rigid social hierarchies of non-human primates may, therefore, be a key factor in facilitating their relatively rapid conflict resolution. Furthermore, an experimental investigation of human responses to conciliatory strategies found that dominance did affect participants' decision to cooperate with their experimental partner (Lindsfold and Aronoff, 1979). Based on this finding, and others, In the present study I aimed to assess the effect of social dominance on reconciliation and forgiveness. In particular, I hypothesized that conciliatory gestures from transgressors would be particularly effective in fostering forgiveness and reconciliation with

transgressors whom victims perceived to be more dominant than they perceived themselves to be.

Results revealed that transgressors' reconciliatory gestures facilitated both forgiveness and reconciliation. This finding is in line with previous research demonstrating that apologies are an effective way of repairing relationships in both adults and children. Children of various ages, when judging actors who committed a transgression, were more forgiving toward apologetic actors (Darby & Schlenker, 1982). Also, apologies have been found to be an essential factor in adults' decisions about whether to forgive a cheating romantic partner (Gunderson & Ferrari, 2008).

In addition, conciliatory gestures interacted with relative dominance to predict both forgiveness and reconciliation. The nature of these interaction effects, however, was in the opposite direction from what I hypothesized. Although I hypothesized that conciliatory gestures by more dominant transgressors would be more effective in bringing about victim reconciliation, the opposite was the case. Also, I had hypothesized that relative dominance would not moderate the relationship between offender conciliatory gestures and forgiveness. I found, however, that conciliatory gestures by less dominant transgressors led to more forgiveness as well as to more reconciliation. These findings would seem to run counter to results from previous work involving non-human primates (De Waal, 2000), anonymous players in a prisoner's dilemma (Lindskold & Aronoff, 1979), people in business settings (Tripp & Bies, 2001), and schoolchildren in conflict (Butovskaya & Kozintsev, 1999), all of which might lead one to suspect that dominant individuals' conciliatory gestures would be more effective in promoting forgiveness and/or reconciliation.

One possible reason why these results ran counter to expectations that seems worth exploring is that, in U.S. social structures, specific social relationships (particularly those with non-kin) may be less essential for one's well-being. Most modern human relationships, for better or for worse, are replaceable with very little consequence for fitness. Whereas a non-human primate unable to interact with his social group is at higher risk of starvation or attack, humans who are ostracized from their groups, or estranged from former friends or acquaintances, remain nevertheless very likely to survive and thrive because they can find new relationships to replace the old ones. As less essential relationships do not instill as much pressure to reconcile, the amount of leverage that a dominant transgressor has for motivating a victim to reconcile may be lost. Furthermore, the use of leverage as a way of bringing about reconciliation may be counterproductive in U.S. social structures.

The non-essential nature of human social relationships may explain the difference between the present findings and those from Lindsfold and Aronoff's (1979) prisoner's dilemma study, as continued interaction with their computer simulated transgressor throughout the experiment was required. Dominance in non-essential social relationships may also lead to decreased receptivity to conciliatory gestures through a difference in how the gestures are interpreted. For example, conciliatory gestures by dominant individuals may be seen as less sincere or trustworthy. Dominant transgressors' conciliatory gestures may also not inspire as much compassion as gestures made by less dominant offenders.

One factor that that seems to have mediated the effects of conciliatory gestures, and the conciliatory gestures–relative dominance interaction, was the victim's sense of

safety around the transgressor. People appear to feel less safe around more dominant transgressors, and people are less likely to reconcile with or forgive people around whom they do not feel safe—even when those transgressors have offered conciliatory gestures. Conversely, less dominant transgressors' conciliatory gestures appeared to be particularly effective at promoting a sense of safety in the people whom they harmed. The idea that conciliatory gestures from less dominant transgressors had positive effects on forgiveness and reconciliation via perceived safety bodes well for the notion that conciliatory gestures exert their effects by reducing victims' post-conflict anxiety—perhaps because they serve as honest signals of benign intent (Silk, 2002).

The current study has several limitations. One notable limitation is the relatively small sample size, which reduced statistical power. Another substantial limitation is that the study did not include any measures of situational dominance, also known as power. Keltner and his colleagues found that power (the ability to withhold essential resources, such as money or social acceptance) is associated with increased attention to reward, increased positive affect, and decreased behavioral inhibition (Keltner, Gruenfeld, & Anderson, 2001). As it is possible that these effects might somehow alter the effects of trait dominance, power is a variable that warrants being measured and controlled. Furthermore, measures of reconciliation may benefit from including items that gauge levels instrumental reconciliation, to better understand whether the victim reconciled so as to gain access to transgressor controlled resources. These items would help to further distinguish reconciliation from forgiveness. Also, it would be most useful to study these associations further in laboratory settings, and with behavioral measures of conciliatory gestures, conciliatory effort, forgiveness, and relative dominance, so questions of cause

and effect could be evaluated more rigorously. Finally, the nature of the study sample (university students) may have led to conclusions that are not representative of other populations. It would be worthwhile to investigate our speculation that the obtained findings would be the same for a population where social relationships are more essential.

In conclusion, this study found that conciliatory gestures by less dominant transgressors appear to more effectively bring about forgiveness and reconciliation, perhaps because such gestures from low-dominance transgressors were particularly effective at making victims feel safe. Future studies are needed to confirm these results and to better clarify the processes underlying these relationships. Such studies could use a larger and more diverse sample to more comprehensively investigate the relationship between dominance, transgressor conciliatory gestures, forgiveness, and reconciliation. In testing causal relations among the variables, experimental studies would be most helpful. It has been nearly 30 years since de Waal and Roosmalen (1979) published their first observations of conciliatory gestures in non-human primates. Hopefully, studies in the near future will help to bridge the gap between our understanding of the functions of humans' conciliatory gestures and our understanding of how such gestures function in the social lives of other primates.

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Figures

Figure 1. Moderation of transgressor conciliatory gesture by transgressor dominance in the prediction of victim reconciliation.

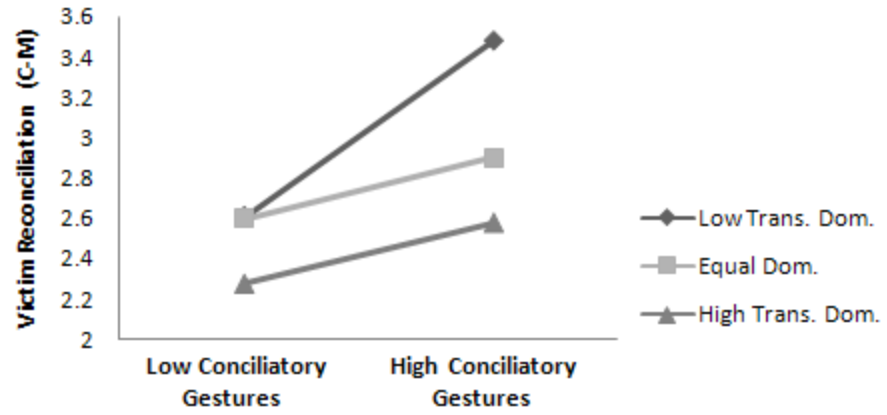
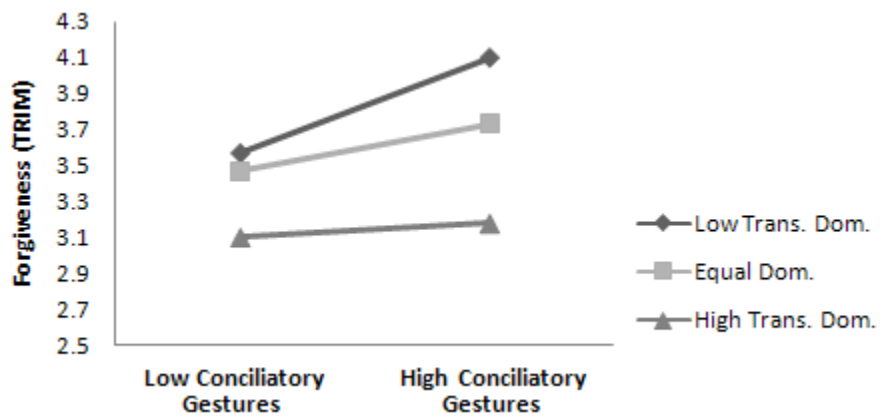


Figure 2. Moderation of transgressor conciliatory gesture by transgressor dominance in the prediction of forgiveness.



Tables

Table 1

Means, Standard Deviations, and Alpha Reliabilities for Major Study Variables

Measure	Mean	Standard Deviation	Alpha Reliability
Conciliatory Gestures	80.1	35.15	.96
Forgiveness	46.7	16.90	.93
Reconciliation	24.7	9.54	.88
IAS-R Victim Dominance	58.0	11.07	.84
IAS-R Transgressor Dominance	57.3	9.30	.85
Relative Dominance	0.1	0.09	--
Severity	50.5	10.1	.83
Closeness / Commitment	84.9	23.74	.96
Perceived Safety	2.5	1.75	--

Table 2*Intercorrelations Between Study's Major Variables*

Variable	1	2	3	4	5	6
1. Relative Dominance	--	.04	.90	-.11	-.13	-.19
2. Conciliatory Gestures		--	.15	.45	.25	.45
3. Gestures X Relative Dominance			--	-.12	-.18	-.21
4. Reconciliation				--	.68	.62
5. Forgiveness					--	.59
6. Perceived Safety						--

Correlations > .16 are statistically significant, $p < .05$.

Table 3*Summary of the Multiple Regression Analysis for Variables Predicting Reconciliation*

Variable	B	S.E.	β	p	R^2
Intercept	2.49	.08	--	<.01	
Conciliatory Gestures	.57	.09	.52	<.01	
Relative Dominance	.27	.21	.25	.21	
Gestures X Dominance	-.22	.10	-.45	.03	
Total					.30

Table 4*Summary of the Multiple Regression Analysis for Variables Predicting Forgiveness*

Variable	B	S.E.	β	p	R^2
Intercept	-47.16	1.53	--	<.01	
Conciliatory Gestures	5.97	1.75	.31	<.01	
Relative Dominance	5.04	3.94	.26	.20	
Gestures X Dominance	-4.02	1.82	-.46	.03	
Total					.14

Table 5*Summary of the Multiple Regression Analysis for Variables Predicting Perceived Safety*

Variable	B	S.E.	β	p	R^2
Intercept	2.59	.16	--	<.01	
Conciliatory Gestures	.58	.19	.29	<.01	
Relative Dominance	.37	.42	.19	.37	
Gestures X Dominance	-.38	.20	-.42	.06	
Total					.13

Table 6

Summary of the Multiple Regression Analysis for Variables Predicting Reconciliation, including Perceived Safety

Variable	B	S.E.	β	p	R^2
Intercept	1.71	.13	--	<.01	
Conciliatory Gestures	.35	.08	.33	<.01	
Relative Dominance	.10	.17	.10	.57	
Gestures X Dominance	-.06	.08	-.14	.44	
Perceived Safety	.32	.04	.59	<.01	
Total					.56

Table 7

Summary of the Multiple Regression Analysis for Variables Predicting Forgiveness, including Perceived Safety

Variable	B	S.E.	β	p	R^2
Intercept	-62.41	2.58	--	<.01	
Conciliatory Gestures	2.92	1.67	.15	.08	
Relative Dominance	3.31	3.50	.18	.35	
Gestures X Dominance	-1.85	1.72	-.21	.29	
Perceived Safety	6.02	.88	.58	<.01	
Total					.40

Appendices

Appendix A

Revised Transgression Related Conciliatory Questionnaire

Please indicate (by circling a single number for each item) the extent to which the person who hurt you did the following things toward you since the offense occurred.

“Since the offense occurred, to what extent did the person who harmed you. . .”

	Not at all	A little	Slightly	Quite a bit	To a great extent
1. Buy you something to eat or drink?	1	2	3	4	5
2. Try to hug you or hold your hand?	1	2	3	4	5
3. Offer to share something with you?	1	2	3	4	5
4. Ridicule himself/herself because of what he/she did to you?	1	2	3	4	5
5. Suggest that the two of you cooperate in accomplishing some sort of task?	1	2	3	4	5
6. Draw attention to his/her faults or personal weaknesses?	1	2	3	4	5
7. Give up some of his/her power in your relationship or in a task that you were completing together?	1	2	3	4	5
8. Try to compensate you or “make up” for the bad thing he/she did to you?	1	2	3	4	5
9. Make fun of his/her personal weaknesses?	1	2	3	4	5
10. Take you out for a meal or something to eat?	1	2	3	4	5
11. Make you feel confident that he/she would not repeat his/her hurtful behavior?	1	2	3	4	5
12. Promise not to hurt you in the same way again?	1	2	3	4	5
13. Try to explain why he/she acted in such a hurtful manner?	1	2	3	4	5
14. Give you the opportunity to make an important decision that affected both of you?	1	2	3	4	5
15. Try to make you laugh (for example, by acting silly)?	1	2	3	4	5
16. Ask you to trust him/her again?	1	2	3	4	5

17. Give you something to eat or drink?	1	2	3	4	5
18. Praise you or offer you a compliment?	1	2	3	4	5
19. Seem non-threatening or safe to you?	1	2	3	4	5
20. Invite you to participate in an activity or attend an event with him/her?	1	2	3	4	5
21. Tell you a joke or a funny story?	1	2	3	4	5
22. Take responsibility for his/her hurtful actions?	1	2	3	4	5
23. Touch you in a friendly or caring way?	1	2	3	4	5
24. Do a favor for you?	1	2	3	4	5
25. Offer you a handshake?	1	2	3	4	5
26. Get you a gift?	1	2	3	4	5
27. Express disapproval with himself/herself because of what he/she did to you?	1	2	3	4	5
28. Share something to eat or drink with you?	1	2	3	4	5
29. Insult himself or herself?	1	2	3	4	5
30. Suggest that you engage in an enjoyable activity together?	1	2	3	4	5
31. Try to "undo" the damage that he/she did to you?	1	2	3	4	5
32. Avoid making eye contact with you when talking with you?	1	2	3	4	5
33. Give up some of his/her rights or privileges?	1	2	3	4	5
34. Say he/she was sorry for what he/she did to you?	1	2	3	4	5
35. Try to repair the harm or damage that his/her behavior caused for you?	1	2	3	4	5
36. Blush when you discussed the harmful thing he/she did to you?	1	2	3	4	5
37. Seem embarrassed or ashamed about what he/she did to you?	1	2	3	4	5
38. Apologize for what he/she did wrong?	1	2	3	4	5
39. Ask you to forgive him/her?	1	2	3	4	5

Appendix B

Interpersonal Adjectives Scales

Please verify: Did you write a number in front of each statement?

Interpersonal Adjectives Scale

Below are a number of adjectives that may or may not describe you. Please write a number next to each statement to indicate the extent to which each adjective describes **YOU** by using the following scale:

1=strongly disagree 2=somewhat disagree 3=neither agree or disagree 4=somewhat agree 5=strongly agree

1. Self-assured _____	17. Self-confident _____	33. Assertive _____	49. Persistent _____
2. Firm _____	18. Dominant _____	34. Tricky _____	50. Domineering _____
3. Cocky _____	19. Crafty _____	35. Unsly _____	51. Unsparkling _____
4. Ruthless _____	20. Ironhearted _____	36. Unbold _____	52. Tender _____
5. Timid _____	21. Forceful _____	37. Boastful _____	53. Sympathetic _____
6. Unargumentative _____	22. Undemanding _____	38. Uncalculating _____	54. Uncharitable _____
7. Softhearted _____	23. Accommodating _____	39. Tenderhearted _____	55. Calculating _____
8. Cheerful _____	24. Friendly _____	40. Perky _____	56. Unauthoritative _____

9. Sly _____	25. Unsympathetic _____	41. Cruel _____	57. Unwily _____
10. Warmthless _____	26. Distant _____	42. Wily _____	58. Outgoing _____
11. Introverted _____	27. Shy _____	43. Forceless _____	59. Meek _____
12. Kind _____	28. Gentlehearted _____	44. Uncrafty _____	60. Boastless _____
13. Unaggressive _____	29. Neighborly _____	45. Coldhearted _____	61. Uncheery _____
14. Extraverted _____	30. Dissocial _____	46. Uncunning _____	62. Antisocial _____
15. Cunning _____	31. Unsociable _____	47. Enthusiastic _____	63. Charitable _____
16. Hardhearted _____	32. Jovial _____	48. Bashful _____	64. Unneighborly _____

Appendix C

Transgression Related Interpersonal Motivations

For the following questions, please circle the number that best indicates your current thoughts and feelings about the person who hurt you; that is, we want to know how you feel about the person TODAY.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. I'll make him/her pay.	1	2	3	4	5
2. I am trying to keep as much distance between us as possible.	1	2	3	4	5
3. Even though his/her actions hurt me, I have goodwill for him/her.	1	2	3	4	5
4. I wish that something bad would happen to him/her.	1	2	3	4	5
5. I am living as if he/she doesn't exist, isn't around.	1	2	3	4	5
6. I want us to bury the hatchet and move forward with our relationship.	1	2	3	4	5
7. I don't trust him/her.	1	2	3	4	5
8. Despite what he/she did, I want us to have a positive relationship again.	1	2	3	4	5
9. I want him/her to get what he/she deserves.	1	2	3	4	5
10. I am finding it difficult to act warmly toward him/her.	1	2	3	4	5
11. I am avoiding him/her.	1	2	3	4	5
12. Although he/she hurt me, I am putting the hurts aside so we could resume our relationship.	1	2	3	4	5
13. I'm going to get even.	1	2	3	4	5
14. I forgive him/her for what he/she did to me.	1	2	3	4	5
15. I cut off the relationship with him/her.	1	2	3	4	5
16. I have released my anger so I can work on restoring our relationship to health.	1	2	3	4	5
17. I want to see him/her hurt and miserable.	1	2	3	4	5
18. I withdraw from him/her.	1	2	3	4	5

Appendix D

Reconciliation Scale

Please indicate (by circling a single number for each item) the extent to which you did the followings things toward the person who hurt you **since the offense occurred**.

“Since the offense occurred, to what extent have you...”

	Not at all	A little	Moderate	Somewhat frequently	Very frequently
1. Cooperated with him/her in accomplishing some sort of task?	1	2	3	4	5
2. Participated in some sort of positive or productive activity with him/her (for example, a social event or a fun activity)?	1	2	3	4	5
3. Accepted a gift or food from him/her?	1	2	3	4	5
4. Spoken to him/her, by phone, email, or in person, as you normally would have before the offense?	1	2	3	4	5
5. Avoided physical contact with him/her?	1	2	3	4	5
6. Accepted an apology from him/her?	1	2	3	4	5
7. Behaved toward him/her as you normally would have before the offense?	1	2	3	4	5
8. Allowed him/her to hug you, shake your hand, or hold your hand?	1	2	3	4	5
9. Acted in a way that let him/her know that you're not ready to reconcile?	1	2	3	4	5
10. "Taken him or her back" (as a friend, girlfriend, boyfriend, etc.)?	1	2	3	4	5