Behavioral, affective, cognitive, and physiological consequences of relational power during conflict

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Allison K. Farrell

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Jeffry A. Simpson, Alexander J. Rothman

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Dedication

To the relationships researchers who came before me—I stand on the shoulders of giants.

Abstract

Power is a fundamental and much-studied concept in social psychology, but the majority of the research on power tests for power differences between pairs of strangers or in hierarchical organizations. The way power operates in other social contexts, such as close relationships, may be very different. This study tested for effects of relational power in romantic couples on behavioral (e.g., influence tactic use, hostility), affective (e.g., negativity, emotional suppression), cognitive (e.g., careful speech, empathic accuracy), and physiological (e.g., heart rate, skin conductance) consequences during a discussion regarding a major conflict. Very few effects of actor or partner power were found, and there were very few consistent patterns for moderators expected to ameliorate the effects of power (e.g., commitment, closeness, partner responsiveness) or exacerbate power differences (e.g., exchange orientation, hostility), nor were there consistent gender differences. Potential explanations for the lack of clear effects are discussed.

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In his 1938 book, *Power: A New Social Analysis*, philosopher Bertrand Russell proposed that "the fundamental concept in social science is power, in the same sense in which energy is the fundamental concept in physics….The laws of social dynamics are laws which can only be stated in terms of power" (p. 4). Social psychologists have accepted power as a fundamental topic of research since the earliest days of the field, and some of our most famous and impactful studies (e.g., Milgram, 1963; Haney, Banks, & Zimbardo, 1973) have explored the consequences of having and lacking power. Power remained a central topic through the end of the 20th century, and in the past few years the number of articles published on power in the top social psychological journals has skyrocketed (see Galinksy, Rucker, & Magee, 2014).

However, much of the work on power has been conducted in lab settings, with power (or related constructs, such as status) manipulated by assigning roles (e.g., manager-boss vs. subordinate-employee; Anderson & Berdahl, 2002) or primed by essay writing tasks about a person's previous experiences with power (e.g., "Write about a situation in which you controlled the ability of another person(s) to get something they wanted;" Galinsky, Gruenfeld, & Magee, 2003). Although these designs allow for causal inferences and can pinpoint the effects of power independently of other possible confounds, these methods provide a limited view of the consequences of having and lacking power in interpersonal interactions.

For example, these studies look at the effects of power only in transient relationships. Typically, participants in these studies do not know one another before coming into the lab, so they do not know what to expect from one another before the interaction occurs. Furthermore, they do not expect to have future interactions with their lab partners. With little possibility of an ongoing relationship, there are few consequences for behavior in these lab sessions. If power leads people to behave in an aggressive or distant manner, for example, these behaviors are unlikely to impact future experiences because there will be no future contact or social interactions with this person.

Some studies of power have examined individuals in ongoing relationships, such as coworkers (Akinola & Mendes, 2014) or fraternity brothers (Anderson, Langner, & Keltner, 2001). Power hierarchies are typically expected and openly recognized (e.g., police ranks) in these settings. However, many social settings, such as romantic relationships, have norms for egalitarianism (Galliher et al., 1999; Caldwell & Peplau, 1984; Sprecher & Felmlee, 1997), and when power imbalances exist, they may be more subtle and less explicit than in settings with clearer power hierarchies.

Close relationships also differ from the previously mentioned relationships studied in other key ways. For example, close relationships are characterized by partners having strong and frequent influence on a wide variety of domains in one another's lives (Berscheid, Snyder, & Omoto, 1989), whereas the impact of coworkers tends to be more limited to work domains. Furthermore, romantic relationship partners treat each other differently than acquaintances or friends do (Aron et al., 1991). Romantic relationships typically involve feelings of love and affection between partners (Sternberg, 1986), and

romantic partners generally want to support and help one another achieve important goals (Fitzsimons & Finkel, 2010). This is very different than relationships between strangers or coworkers, making it more difficult to be assertive, aggressive, and distant in the context of close relationships, as powerful people are typically characterized as being.

Investigating the effects of having and lacking power in close relationships should advance both relationship science and the experimental power literature. Examining power in close relationship contexts may illuminate boundary conditions for the phenomena previously identified by other power scholars in contexts outside close relationships. Furthermore, theories and models from the close relationships field can suggest new potential moderators for understanding when and why powerful people choose to act on their power or refrain from doing so. In turn, the experimental power literature can also inform relationship science. Although leading relationship scientists have claimed that power and influence are fundamental to understanding the inter-workings of close relationships (Huston, 1983; Reis, Collins, & Berscheid, 2000), little theoretical or empirical work has focused on the processes underlying the establishment and maintenance of power within close relationships, including the outcomes that power differences have on relationship partners' thoughts, feelings, and behaviors (see Simpson, Farrell, Oriña, & Rothman, 2015). The findings from the experimental power literature suggest several new and interesting directions for close relationship scholars to explore.

This dissertation aims to bring together the relational and experimental perspectives on power to better understand the consequences of power for a wide range of outcomes, focusing on romantic relationships as a key type of close relationship. I will

begin by describing the theoretical traditions from which this works emanates, and will then describe the specific behavioral, affective, cognitive, and physiological outcomes of having and lacking power proposed and illustrated by the experimental literatures that are relevant to romantic relationships. Finally, I will describe relational variables that may serve as moderators of these effects, intensifying or reducing the consequences of having or not having power.

Theoretical Perspectives on Power

The theoretical model of relational power underlying this dissertation is the Dyadic Power-Social Influence Model (DPSIM; Simpson et al., 2015). The DPSIM integrates past theoretical perspectives on power into a process model that explains the antecedents of power within a relationship, the use of different influence tactics by each partner, and the outcomes of power for both the relationship and each partner (see Figure 1). According to the DPSIM, *power* is defined as the ability or capacity to change another person's (i.e., the partner's) thoughts, feelings, and/or behavior so they align with one's own desired preferences, along with the ability or capacity to resist influence attempts imposed by the partner. Unlike previous definitions of power (e.g., French & Raven, 1959; Thibaut & Kelley, 1959), this definition characterizes power as an emergent, dyadic property of the relationship between two people, and considers not only one's ability to influence the partner, but also one's ability to resist influence in return.

Power has two major components: *process power* (i.e., having control over the decision-making process itself, which can be enacted by leading conversations or laying out options and ideas) and *outcome power* (i.e., having control over the final decisions

made by the couple). These two types of power reflect different approaches to controlling

decision-making, and they rely on different sets of skills. For example, individuals who

feel less comfortable pushing aggressively for their own point of view might be more

inclined to frame issues during discussions in ways that make their preferences seem

more appealing or logical. Other individuals may enact power by "making the final

decision," even if their partner has essentially led them to the final outcome.

The DPSIM can be broken down into three stages. First, it models how power

develops in a relationship, based on features of the individuals and the dyad. Second, the

DPSIM outlines how power is utilized and expressed in interpersonal interactions.

Finally, DPSIM suggests how the use of power may impact individuals and their

relationship, and how this can cycle back to affect sources of power in the relationship.

This dissertation focuses on testing the second and third portions of the DPSIM; that is,

how partners use their power and the consequences this use has on each individual and

their relationship. The DPSIM predicts that the amount of power an individual has in a

relationship should influence interaction behavior, particularly the influence tactics an

individual uses (Simpson et al., 2015). In addition, the DPSIM predicts that what happens

during these interactions should predict certain individual and relational outcomes.

Many of the theories and models focused on power in relationships only focus on

the first portion of the DPSIM—sources of power. The theory integrated into the DPSIM

that provides the greatest insight into how power is expressed and how this affects

individuals and relationships is Power-Approach Theory (Keltner, Gruenfeld, &

Anderson, 2003). Keltner and colleagues suggest that the fundamental motivation for low

power individuals is to understand and predict the needs of their more powerful partners, whereas those with high power are motivated to get what they want. These differing motivations are governed by two neurobiological systems that guide attention, emotion, and behavior: the behavioral inhibition system (BIS) and the behavioral activation system (BAS). Activation of the BIS motivates individuals to attend to threats and potential punishments and to change their behavior if a threat is detected—outcomes that are keenly important for low power individuals in order to appease high power people. In contrast, BAS activation motivates individuals to attend to rewards and goal pursuit, outcomes that high power individuals want to achieve. Thus, high power individuals should show greater BAS activation, whereas low power individuals should show greater BIS activation.

Power-Approach Theory (Keltner et al., 2003) suggests that these differing motivations and systems should result in a wide variety of different outcomes. Having greater power, for example, should be associated with more attention to rewards and less empathic accuracy, whereas having less power should be associated with heightened sensitivity to punishment and systematic, controlled information processing. Behaviorally, more powerful people should show greater consistency in their behavior across different situations, be less inclined to modify or mask their emotional expressions, and display more socially inappropriate behavior compared to less powerful people, given that the behavior of more powerful people should be less socially constrained. Although Power-Approach theory has been highly influential on power research outside close relationships (see Galinsky, Rucker, & Magee, 2013), its

predictions have not been tested much in close relationships (for an exception, see Gordon & Chen, 2013).

In the next section, I will apply power-approach theory to the close relationship context to derive novel predictions about the consequences of having and lacking power in romantic relationships on emotion, cognition, behavior, and physiology. To draw out these differences, I will examine romantic partners' interactions and reactions in a key, power-relevant situation: relationship conflict. Conflict occurs when two individuals hold incompatible goals and one (or both) individuals are willing to pursue those goals at the expense of their partner's best interests (Lewin, 1948; Holmes & Murray, 1996). Although conflicts are often based on a single dilemma or problem, they are interpreted and negotiated within the wider context of the relationship, which means that past experiences and beliefs about the relationship and the partner can guide how each partner thinks, feels, and behaves during conflict discussions. The power dynamics between partners in the relationship should also affect conflict discussions. Power-approach theory suggests that high power partners should view their partners and their partner's needs as a potential obstacle to their own goal achievement, so they might push forcefully to achieve their goals and get their way during conflict discussions. In contrast, low power partners need to manage conflicts at multiple levels: not only are they at odds with their high power partners, but this goes against their basic motivation to get along with them (Keltner et al., 2003). Thus, there should be different profiles of behavior, emotion, cognition, and physiology during conflict discussions according to the power status of each partner.

Behavioral Consequences of Power

According to the DPSIM, influence tactic use should be an important way to

display power (Simpson et al., 2015). This is particularly true in conflict discussions,

where the basic goal is to convince your partner to agree to or go along with what you

want. Partners can accomplish this through the use of *influence tactics*—communication

styles used by individuals (*agents of influence*) to change the thoughts or behaviors of

their partners (*targets of influence*). Although many researchers have developed

taxonomies of influence tactics (e.g., Falbo, 1977; Howard, Blumstein, & Schwartz,

1986; Marwell & Schmitt, 1967), Overall, Fletcher, Simpson, and Sibley (2009)

combined these models and propose that *influence tactics*, specific behavioral acts of

influence, can be grouped into broader influence strategies based on two orthogonal

dimensions: valence and directness. *Valence* refers to the affect behind an influence

tactic, ranging from positive to negative. *Directness* refers to the extent to which an

influence attempt is explicit, overt, and directly engages the partner. The four quadrants

created by crossing these two dimensions define four primary influence tactics. *Positive-

direct* tactics involve rational reasoning, such as basing arguments around factual

information, weighing pros and cons, and/or explaining a point of view in a way that

makes it appear more logical and rational. *Positive-indirect* tactics involve softening

influence attempts by minimizing the problem and/or using humor. *Negative-indirect*

tactics place the agent of influence below the influence target, aiming to make the agent

feel guilty by showing hurt, self-pity, and/or emphasizing the negative consequences the

target's position has for the agent, and/or by appealing to the target's love and concern. In

contrast, *negative-direct* tactics place the agent above the target, either by acting autocratic and implying the agent is in a superior or more authoritative position on the topic, being patronizing and condescending, taking a non-negotiative stance, and/or by being coercive or derogating, threatening, or blaming the target.

Most of the work on these influence tactics has investigated their relative effectiveness. For example, direct tactics tend to be less successful in promoting change immediately after use and often result in greater stress, but they are associated with greater behavior change over time, whereas positive-indirect tactics show the opposite pattern, being perceived as effective in initially but not over time (Overall et al., 2009). However, little is known about when or how relationship partners choose to use these different tactics.

I expect relationship power will predict influence tactic use (Hypothesis 1). Specifically, high power partners should be more likely to use direct tactics, either positive or negative, as they assertively and effectively promote their goals as influence agents (Hypothesis 1a). This is the primary motivation of high power partners, who should be less concerned about upsetting or alienating their partners (Keltner et al., 2003). Low power partners, in contrast, should be more socially constrained during conflict discussions, and they should be more concerned about maintaining positive relationships with their partners and less willing to accept the potential costs of directly pushing for their own preferred positions. Instead, low power partners should use more indirect tactics, which should allow them to express their points of view while respecting

their high power partners' authority, to appeal to the social connections between them and their high power partners, and to not directly confront them (Hypothesis 1b).

There should also be differences in the use of coercive negative-direct influence tactics, which can be redefined as *hostility*. Expressing hostility in relationships can have both positive and negative effects. Unsurprisingly, greater hostility expressed during marital interactions is generally associated with reduced relationship satisfaction over time due to the negative cycle of interactions it evokes (Gottman & Notarius, 2000; Karney & Bradbury, 1995). However, disagreement and criticism sometimes predicts increases in relationship satisfaction over time, perhaps because hostile expressions can communicate engagement and commitment that in turn motivates changes and conflict resolution (Gottman and Krokoff, 1989; Overall et al., 2009). Thus, expressing hostility can have benefits for the self and the relationship, but it also carries major risks. I expect more powerful partners should be more comfortable taking these risks and will express greater hostility during conflict interactions than low power partners (Hypothesis 2).

Emotional Consequences of Power

Previous work on power and affect has shown inconsistent findings. Keltner and colleagues (2003) predicted that having greater power should result in more positive mood, as it encourages goal pursuit and is linked with underlying biological systems (i.e., BAS activation). However, many studies have found no links between power and mood (e.g., Galinsky et al., 2012; Rucker & Galinsky, 2008; Smith & Trope, 2006). The studies that have found the theorized relation between power and positive mood have typically been interpersonal interaction studies, studying power dynamics in ongoing relationships,

rather than priming studies, in which power is assigned between strangers (Galinsky et al., 2014), so there could be links between power in relationships and positive mood. However, relationship conflicts usually do not evoke positive moods (Holmes & Murray, 1996; Gottman, 1994). Rather, there should be difference in the extent to which negative emotions are experienced during conflict, such that low power partners should experience greater negative emotionality due to their greater BIS activation (Hypothesis 4a).

There also might be differences in the types of negative emotions experienced as a result of power levels in relationships. Carver and Harmon-Jones (2009) propose that, in addition to thinking about the valence of emotions, researchers should consider their motivational underpinnings. To illustrate this, they compare anger and anxiety. Many situations can produce both anger and anxiety (e.g., feeling that your goals are being blocked). However, anger and anxiety differ in several key ways. First, anger is associated with brain activity in the same regions associated with approach-focused emotions, such as positive emotions, whereas anxiety is not. Second, anxiety tends to inhibit the expression of emotion, whereas anger promotes it. Finally, self-reports of anger are more closely associated with BAS scale scores, whereas reports of anxiety are associated with BIS scale scores. Together, this suggests that anger is an approach-focused negative emotion and anxiety is an inhibition-focused emotion (Carver & Harmon-Jones, 2009). Previous studies of power have shown that individuals who have low power report feeling more fear, which is closely related to anxiety, supporting this connection (Anderson, Langer, & Keltner, 2001; Keltner et al., 1998). Thus, I predict that high power partners will express more approach-focused emotions, especially anger,

during their conflict discussions (Hypothesis 4b), but low power partners will express more inhibition-focused emotions, particularly anxiety (Hypothesis 4c).

In addition to shaping which emotions are experienced during conflict, relational power should also predict the extent to which individuals express emotions during conflict discussions. Work by Keltner and colleagues (1998) shows that high power individuals show greater emotional expression (e.g., smiling) than low power individuals. High power individuals are also more likely to act against social norms, such as being rude or aggressive, which suggests that they are displaying their anger more openly (Keltner et al., 2001; Pearson & Porath, 1999). In contrast, low power individuals make facial movements associated with emotional suppression, such as lip presses and sucks (Keltner et al., 1998). Thus, I expect that low power partners will suppress their emotions more than high power partners during their conflict discussions (Hypothesis 5).

Cognitive Consequences of Power

Power differences have also been linked to the automaticity of social cognition and behavior. High power is associated with many low-effort cognitive tendencies, such as stereotyping and outgroup discrimination (Fiske, 1993; Brewer, 1979). This automaticity and disinterest in others may carry over to relevant cognitions during relationship conflict as well. High power individuals are less attentive to others than low power individuals. For example, low power humans (and other primates) spend more time gazing upon others than high power individuals do (e.g., Chance, 1967; Ellyson, Dovidio, & Fehr, 1981; Montagner et al., 1998). This results in marked differences in perspective-taking and *empathic accuracy*, the ability to correctly infer the thoughts and

feelings of others (Ickes, 1997). High power is consistently associated with less perspective-taking in the experimental literature (e.g., Galinsky et al., 2006; Keltner & Robinson, 1997), and one study has linked increased relational power with reduced perspective-taking and empathic accuracy (Gordon & Chen, 2013). Given that high power people are less socially dependent and face fewer consequences for being self-focused, they put less cognitive effort toward trying understand others' thoughts and feelings, which is critically important to the success of low power individuals. In particular, low power individuals are motivated to understand and predict high power individuals' desires, and this attentiveness may often help them achieve this goal. Thus, I expect low power individuals will be more empathically accurate during conflict discussions (Hypothesis 5a)

This difference in cognitive engagement should also be seen in the verbal expressions of high and lower power partners. The speech of low power individuals tends to show more hesitations, suggesting that they are more thoughtful and inhibited in their verbal expressions (much like their emotional expressions). These low power individuals, therefore, may be engaging in a balancing act, trying to get their position across without being too forceful through careful phrasing of their wants and needs. In contrast, high power individuals are less concerned with politeness and more open in their expressions, both verbally and emotionally (DePaulo & Friedman, 1998; Keltner et al., 1998). Thus, I expect low power individuals will report putting more effort into their verbal expressions and will have better memory for their own (and their partner's) words expressed during the conflict discussions (Hypothesis 5b).

Physiological Consequences of Power

Physiology and power are easy to link theoretically. Gray's (1975) motivational theory regarding the neural substrates of approach and inhibition formed part of the foundation of Keltner's Power-Approach Theory. Gray proposes that three interdependent brain systems govern behavior: fight or flight, the reward-seeking behavioral approach system (BAS), and the punishment-avoiding behavioral inhibition system (BIS). Both the BIS and the BAS are controlled by the sympathetic branch of the autonomic nervous system, one of two systems (the other being the hypothalamic-pituitary-axis or HPA) that are activated by stress. However, Fowles (1980) suggests that these two systems have different physiological markers. The BIS is reflected in perspiration of the skin in response to stress, referred to as *skin conductance* or *galvanic skin response*. Numerous studies have supported this connection, showing that when individuals are exposed to punishments and are instructed to inhibit their responses, they sweat more (i.e., show more skin conductance) (e.g., Katkin, 1965; Sosnowski, Nurzynska, & Polec, 1991; Tranel, 1983). In contrast, the BAS system is associated with changes in heart rate (Fowles, 1980).

The expected connections between power and physiology are clear: Low power should be associated with BIS activation and greater skin conductance (Hypothesis 6), and high power should be associated with BAS activation and higher heart rate reactivity (Hypothesis 7). Shockingly, there is very little research testing the connections between power and physiological responses, either in the experimental priming/manipulation power literature or in work testing existing power dynamics in relationships. Akinola and

Mendes (2014) found that both naturally existing power status (in police officers) and manipulated status (through assigned leader vs. support roles) are associated with increased heart rate reactivity. Scheepers, DeWit, Ellemers, and Sassenberg (2012) examined the effects of power on heart rate. However, they examined the efficiency of the cardiac pattern (i.e., cardiac output combined with vascular resistance) rather than heart rate, finding that more powerful people had a more efficient cardiac profile than low power individuals. No studies to date have tested the effects of power on electrodermal responding.

Moderating Factors

As discussed earlier, romantic relationships are different than relationships between strangers, acquaintances, or coworkers. Close relationship partners have ongoing relationships, with past experiences informing and carrying over into later experiences and in which norms regarding egalitarianism usually develop. Perhaps most importantly, romantic relationship partners care more deeply about one another's welfare and want each other to feel supported and happy. These unique relationship factors should affect the way power is perceived and enacted during relationship conflicts (see the expected effects outlined in Hypotheses 1-7). In close relationships, some of the expected (and previously documented) differences in the existing power literature may be intensified, but others may not appear in response to the thoughts and actions of relationship partners, both entering and during conflict discussions.

Most potential moderating factors are likely to affect the beliefs or behaviors of high power partners more than low power partners. There are multiple reasons for this.

Primarily, the high power partner should be more impactful in setting the tone of most

conflict discussions, with low power individuals being more attuned and responsive to

high power individuals than vice versa. Furthermore, to the extent that high power

individuals are less inhibited, we should see a greater range of behaviors from them,

resulting in more changes to the course and tone of the conflict discussions. In what

follows, I first outline factors that should decrease differences between high and low

power partners, and then factors that should intensify these differences.

High power partners' commitment. *Commitment* refers to an individual's long-

term intention to maintain and continue his/her relationship (Rusbult, 1980). According

to the investment model, commitment stems from feeling your current relationship

satisfies your needs better than alternative relationships (e.g., other people you could

date) and your investments (e.g., time, property) in the relationship (Rusbult, 1980).

Commitment is positively associated with a number of relationship maintenance

behaviors, such as responding positively to negative behavior from the partner and

derogating alternative relationships (e.g., Rusbult, Drigotas, & Verette, 1994). One of the

most important consequences of commitment is *transformation of motivation*, which

occurs when individuals choose to refocus on what is best for their partner and the

relationship rather than on what is best for them (Yovetich & Rusbult, 1994).

Transformation of motivation allows people to overcome the impulse to act negatively or

selfishly, such as by being willing to sacrifice for the partner or put aside one's own goals

for important relationship goals (Rusbult & Van Lange, 2003).

I expect feeling more committed will lead high power partners to behave in more pro-social ways toward their low power partners because of this transformation of motivation, lessening their tendency to think, feel, and behave the way that prototypical powerful individuals do. This, in turn, should lead their low power partners to perceive the discussion as less threatening, resulting in reductions in BIS activation and the behavioral, emotional, cognitive, and physiological outcomes that ought to follow. In sum, when high power partners are more committed, the differences in the responses of high vs. low power partners should be reduced (Hypothesis 8a).[1]

High power partners' closeness. Another relationship perception that should impact the way power is displayed in relationships is perceived closeness. Closeness has been defined in numerous ways over the years, but the most relevant definition for understanding its effect on power comes from self-expansion theory (Aron, Aron, & Smollan, 1992). Self-expansion theory suggests that as relationship partners become closer, they see their partners as increasingly becoming part of the self, merging with them and taking on their own characteristics. This leads individuals who feel close to their partners to treat them (their partners) the way they would treat themselves; for example, they make similar attributions for their own and their partner's successes and failures, and share resources more equitably (Aron et al., 1991).

This runs counter to one of the major effects of power on individuals: creating social distance between the self and others. The social distance theory of power (Magee & Smith, 2013) suggests that power, which they define as asymmetrical dependence, should result in perceiving greater distance between the self and other people. Magee and

Smith (2013) suggest that many of the consequences of having power, including reduced

empathic accuracy and less attentiveness to others, stem from social distancing. Feeling

close to one's partner should counteract this tendency and reduce high power partners'

tendencies to think, feel, and act in typically powerful ways. Thus, when high power

partners feel closer to their partners, the differences in the responses of high vs. low

power partners should be reduced (Hypothesis 8b).

High power partners' responsiveness. Relationship partners generally care for

and want to support one another. One way they can show this during conflict discussions

is through behaviors collectively referred to as *partner responsiveness*. The three facets

of partner responsiveness are understanding (asking questions about and confirming

understanding of the partner's point of view), validation (bolstering the partner's thoughts

and feelings), and caring (showing love and affection for the partner; Reis & Shaver,

1988). These responsiveness behaviors are associated with improving outcomes in

stressful relationship situations, including conflict situations (e.g., Shallcross & Simpson,

2012).

I expect these behaviors will similarly reduce the effects of power on behavior,

affect, cognition, and physiology. Having a partner who is trying to draw out information,

validating one's beliefs, and being affectionate should lead low power partners to

perceive the conflict as less threatening and lead them to be more proactive in the

discussion. This should activate the BAS (rather than making them nervous, withdrawn,

and cautious and activating the BIS). Thus, when high power partners feel closer to their

partners, the differences in the responses of high vs. low power partners should be reduced (Hypothesis 8c).

High power partners' exchange orientation. Individuals vary in the extent to which they are attuned to imbalances in relations. Individuals who hold an exchange orientation in their relationships believe that partners should strive to maintain equal exchanges of benefits, and keep track of what is being given and received to ensure they are not being underbenefitted. In contrast, individuals with communal orientation tend to give benefits freely as needed by the partners, without assuming or being concerned with whether they will necessarily receive equal benefits from their partner in return later on (Clark & Mills, 1979). Having an exchange orientation rather than a communal orientation has been associated with worse marital quality and satisfaction and less support provision (Merstein & McDonald, 1993; Williamson & Clark, 1989). By only providing benefits contingently, individuals with exchange orientations make their partners feel less cared for and less secure in the relationship (Beck & Clark, 2010). In the context of power, low power partners feeling less cared for and secure and high power partners being concerned with maintaining their benefits in the relationship should lead to exacerbated power differences. Indeed, Chen and colleagues (2001) found that individuals with more power who also had exchange orientations acted more in their own self-interest than individuals who had communal orientations. Thus, when high power partners have exchange orientations regarding their relationship, the differences in the responses of high vs. low power partners should be intensified (Hypothesis 9a).

High power partners' hostility. High power partners may also behave in ways that intensify the stress of the conflict discussion and exacerbate the situation. In particular, high power partners who express greater hostility should intensify differences with their low power partners across behavioral, emotional, cognitive, and physiological outcomes (Hypothesis 9b). Although I expect high power partners will express more hostility overall than low power partners (see Hypothesis 2), there should be substantial variation in the extent to which high power partners are hostile during a given conflict. When high power partners engage in hostility, this should strongly activate the BIS in their low power partners, not only because hostility is punishing (or raise the threat of punishment), but it suggests that low power partners are not achieving their goal of understanding and getting along with the high power partner. This should intensify the BIS-related reactions of low power individuals and create larger effects on the outcomes previously discussed as a function of power.

Gender. One potential moderating factor of the relation between power and behavioral, affective, cognitive, and physiological outcomes whose impact is more uncertain is gender. Much of the work on gender and power takes more of a societal-level view, showing how limited access to resources for power and gender stereotypes limit women's abilities to gain power (e.g., Ragins & Sundstrom, 1989). Early studies of power in relationships showed men tended to hold more power than women, despite most individuals reporting they desired an egalitarian relationship (Cromwell & Olson, 1975; Felmlee, 1994; Grauerholz, 1985; Peplau, 1979; Sprecher & Felmlee, 1997;). However, some more recent studies have found the pattern flipped, with women having more power

in their romantic relationships (e.g., Giordano, Longmore, Manning, 2006). Even less is known regarding *how* men and women use power in their relationships. Falbo and Peplau (1980) found men were more likely to use direct influence tactics, but men also tended to have more power in their sample, and they did not attempt to unconfound these variables. Thus, this study will explore the effects of gender on the relation between power, other moderators, and behavioral, affective, cognitive, and physiological outcomes without making any a priori predictions regarding the expected pattern of results.

The Current Study

My dissertation research will focus on how having or lacking power in a romantic relationship affects one's behavior, cognition, affect, and physiology. To investigate these issues, I recruited 125 romantic couples and asked each partner report his/her beliefs about the relationship and its power dynamics. Couples then came to the lab to engage in a videotaped discussion about an ongoing conflict in their relationship, which was later be coded for emotional expression and suppression, influence tactic use, and hostility. While completing the conflict discussion, participants also wore physiological monitors to record how their bodies were reacting to the conflict. Afterwards, participants watched the tapes of their discussion and report what they and their partner were thinking, feeling, and doing throughout the discussion to assess their perceptions of their responses to it. To review, my hypotheses are as follows:

Hypothesis 1: Power will affect influence tactic use, such that:

H1a: Higher power partners will use more direct influence tactics.

H1b: Lower power partners will use more indirect influence tactics.

Hypothesis 2: Higher power partners will be more hostile than lower power partners.

Hypothesis 3: Power will affect emotions evoked by the conflict discussion, such that:

3a: Lower power partners will feel more negative emotions than high power partners.

3b: Higher power partners will feel more approach-focused emotions (i.e., anger).

3c: Lower power partners will feel more inhibition-focused emotions (i.e., anxiety).

Hypothesis 4: Lower power partners will engage in more emotional suppression than higher power partners.

Hypothesis 5: Lower power partners will be more attentive to and cognitively engaged in the discussion than higher power partners, as seen in:

5a: Their greater empathic accuracy

5b: Their self-reports of the effortfulness of their verbal expressions.

Hypothesis 6: Lower power partners will show greater electrodermal response as measured by skin conductance during conflict.

Hypothesis 7: Higher power partners will show faster heart rates during conflict.

Hypothesis 8: Differences in the physiological, emotional, cognitive, and behavioral responses (as described in hypotheses 1-7) of higher vs. lower power partners will be lessened when the higher power partners:

8a: Are more committed to the relationship.

8b: Feel closer to the partner.

8c: Behave more responsively (i.e., shows understanding, validation, and caring) during the conflict discussion.

Hypothesis 9: Differences in the behavioral, emotional, cognitive, and physiological responses (as described in hypotheses 1-7) of higher vs. lower power partners will be intensified when higher power partners:

9a: Are more exchange oriented in their relationship.

9b: Are more hostile during the discussion.

Exploratory Question 1: How does participant gender impact the pattern of results?

Method

Participants

The participants in this study were 125 exclusive heterosexual romantic couples (250 individuals), all of whom were over 18 years old and had been together for at least one year.[2] Participants were recruited through two outlets. First, the study was advertised through the psychology student pool, and students were be given course credit for participating. If their partner is not eligible for credit, they were paid $25 for participating. Second, the study was advertised on fliers posted around the UMN campus and off-campus locations. Non-psychology-student participants were paid $25 each ($50/couple).

Of the participants, the average age was 22.67 years old (sd=5.56 yrs) and 64.2% were White/Caucasian, 17% were Asian/Asian-American, 4.2% were Hispanic/Latin American, 1.2% were Black/African-American, .9% were Middle Eastern, 6.6% identified as Multiracial/Other, and 6% did not report their race/ethnicity. The average

relationship length was 3.05 years (*sd*=2.87), and 57.3% were dating exclusively (not cohabitating), 16.4% were cohabitating (not married or engaged), 12.2% were married, 7.5% were engaged, and 6.6% did not respond.

Measures and Procedure

Background survey. Before coming into the lab, participants (each partner) separately and privately completed a background survey online containing the following measures:

Demographic information. Participants reported their age, gender, race/ethnicity, relationship status, and relationship length.

Relationship power. Power in the relationship was measured by the Relationship Power Inventory (RPI; Farrell, Simpson, & Rothman, 2015). Participants completed the 20 item Overall RPI, which asked them to rate the power they and their partner hold generally in the relationship (e.g., "When my partner and I make decisions in our relationship, I tend to structure and lead the discussion," "I have more say than my partner does when we make decisions in our relationship"). All items were rated on 7-point Likert-type scales, ranging from 1 (*not at all*) to 7 (*always*) (α=.81).

Relationship commitment. To measure relationship commitment, participants completed the Perceived Relationship Quality Components (PRQC) inventory (Fletcher, Simpson, & Thomas, 2000). The PRQC assesses six aspects of relationship quality (satisfaction, commitment, trust, intimacy, love, and passion) with 18 items rated on a 1 (*not at all*) to 7 (*completely*) Likert-type scale. The three commitment items (How committed are you to your relationship? How dedicated are you to your relationship?

How devoted are you to your relationship?) were averaged and used as the measure of commitment in this study (α=.90).

Closeness. Participants completed the Inclusion of Other in Self (IOS) scale, a one item pictorial measure of subjective closeness to the relationship partner (Aron, Aron, & Smollan, 1992). The level of closeness is represented by pairs of circles overlapping to varying extents, from barely touching (1) to almost completely overlapping (7).

Exchange orientation. To measure the extent to which participants had an exchange orientation in their romantic relationship, they completed the nine-item Exchange Orientation Scale by Mills and Clark (1994). Each item was rated on a 1 (Extremely uncharacteristic) to 5 (Extremely characteristic) Likert-type scale (α=.70).

Lab Session Measures. The following measures were collected during the lab session:

Physiological measures. After choosing an issue to discuss (see the procedure section below), participants moved to the videotaping room where surface sensors measuring electrodermal and cardiac activity were attached to each participant's torsos and fingers. All physiological measurements were collected using the BioPac MP150 data acquisition system. Physiological reactions were monitored continuously using the AcqKnowledge online data acquisition software at a rate of 2,000 samples per second. Electrodermal responses were measured by galvanic skin response (GSR). A constant-voltage device was used to pass a small voltage between electrodes attached to the palmar

surface of the last phalanxes of the second and fourth fingers of the non-dominant hand.

GSR was measured in microsiemens.

To measure cardiovascular activity, electrode stickers were placed under the right

clavicle and under the left rib cage, with a ground lead positioned on the sternum. Heart

rate (HR) reflected beats per minute. Consistent with prior work (Holland & Roisman,

2010; Roisman, 2007), physiological reactivity measures of electrodermal and heart rate

reactivity were created by subtracting mean levels of physiological activity in the resting

baseline from mean levels during the conflict discussion (see the procedure section

below).

Interval self-reports. Immediately after the discussion, participants (partners)

watched the videotapes of their discussion separately from their partner in ten 30 second

intervals. After each interval, they used 7-point Likert-type scales from 1 (*not at all*) to 7

(*very much so*) to report within that 30 second interval: (1) how much they tried to

suppress their emotional expressions; (2) how positive, sad, angry/frustrated, and

anxious/worried they felt; (3) how carefully they spoke during the discussion; and (4)

how understanding, validating, and caring they perceived their partner was. The same

ratings were made for their partner's thoughts, feelings, and behaviors (e.g., how angry

they thought their partner was during that 30 second interval). Ratings were averaged

across the ten 30 second intervals to create global ratings of each set of scale items.

To assess self-reported negative emotions, global sadness, anxiety/worry, and

anger/frustration were averaged (α=.78). Similarly, partner responsiveness was assessed

by averaging individuals' global ratings of their partners' understanding, validation, and

caring (α=.90). To assess empathic accuracy (see the procedure section below),

individuals' self-reports of their own emotions during each interval were subtracted from

their partner's reports of the individual's emotion, converted to absolute values (i.e., the

absolute value of Partner A's report of Partner B's sadness in interval 1 minus Partner

B's report of B's sadness during interval 1 = Partner A's empathic accuracy for sadness

during interval 1), and then averaged across the 10 intervals to create a global measure of

empathic accuracy for each emotion (Howland & Rafaeli, 2010). Empathic accuracy for

negative emotions was calculated by averaging empathic accuracy for sadness,

worry/anxiety, and anger/frustration (α=.77).

Procedure

After being recruited and confirming they met the participation requirements,

participants separately (i.e., away from their partner and privately) completed the

background survey online. Once both partners completed the survey, each couple was

scheduled for a lab session.

After consenting to participate in the study in person and having any questions

answered by experimenters, participants (partners) each separately completed a

Markman-Cox conflict rating sheet (Cox, 1991) to help them identify a conflict topic to

discuss. This sheet listed 11 domains in romantic relationships in which partners might

have disagreements (e.g., money, communication), plus two lines for participants to write

in other domains/issues. Participants were asked to rate each domain according to how

much each item is a problem in their relationship, ranging from 1 (*Not a problem*) to 10

(*Is a serious problem*). After completing the sheet separately, couples (both partners) were instructed:

"*Now, we're going to have you select the topic for your discussion today. Together, I want you to decide what you think is the single BIGGEST problem in your relationship. It may or may not be related to something on the list, but these should help you think about what it is. This may or may not be something that you have <u>argued</u> about a lot in the past, but it should be the most important thing that the two of you <u>disagree</u> about and it should be an ongoing problem that is yet to be resolved. Right now, we just want you to look at your lists together and decide what the biggest problem in your relationship is for you to discuss. We don't need you to discuss each item on the worksheet, we only need you to choose the biggest problem. I recommend starting by looking at the problem areas you each rated highest, and seeing if there's any overlap. Once you have agreed on a problem to discuss, please call me back in.*"

After giving these instructions, the experimenter left the room so that each couple could choose their issue privately. Once participants decided on an issue, they described it to the experimenters so they could ensure the topic was a major area of disagreement for that couple. If both experimenters agreed it was an appropriate topic, the participants moved on to the discussion. If not, the experimenter asked the couple to identify another issue and clarified the requirements for the topic.

Next, couples (both partners) washed their hands and were taken to the videotaping room to be hooked up to the heart rate and GSR monitors (see above). Once the physiological monitors were attached and working properly (as checked by the

experimenters), participants were instructed to sit quietly and relax for 3 minutes while the baseline physiological recordings were collected. If participants started talking or laughing during the baseline, the experimenters reminded them not to talk or laugh and started the baseline recording over. Baseline physiological recordings were subtracted from physiological recordings during conflict to control for individual differences.

To start the discussion, the experimenter instructed each couple as follows: *"Now we would like you to talk about [issue]. First, tell each other your thoughts and feelings regarding this problem, and then try to reach an agreement you are both happy with. Please do not discuss any other problems during this discussion."* Once any participant questions were answered, they were told: *"You will have 5 minutes to discuss this issue. Now think back to the last discussion you and your partner had about this topic. Remember what you were thinking, how you were feeling, and what you did during the discussion. Try to remember what you and your partner specifically said and how the discussion made you feel in general. Now spend the next few seconds just thinking about your last discussion about this particular topic."* The experimenter told each couple to begin the discussion after 10 seconds and then left the room, while the second experimenter began videotaping and recording their physiological reactions.

Once participants finished the five minute discussion, the physiological monitors were removed and each participant (partner) was led to a separate room with a computer. Each partner was instructed:
"Now I'm going to have you answer some questions about what you and your partner were thinking and feeling at different parts of the discussion. To help you do this, you're

going to watch the video of your discussion back in 30 sec segments, and then answer

questions about what you and your partner were thinking and feeling during each

segment. Answer the questions based on what was happening in just that segment while

you were having the discussion, not based on how you feel now or the discussion as a

whole."

After the experimenters answered any questions, participants put on headphones and watched their discussion in 30 second intervals. After each 30 second interval, participants completed self-report questions assessing the thoughts, feelings, and behavior with respect to themself and their partner during that 30 second portion of the discussion. After both partners reviewed and reported on all 10 intervals, the couples were debriefed and paid.

Behavioral coding

Interval-based codes. Two sets of four trained coders watched the videotapes in 30 second intervals and rated one of the partners (i.e., first all the males, then all the females) on the following sets of behaviors (see below). Each set of behaviors was coded by a different group of independent coders (although some coders were dropped from certain codes to improve reliability; see below). Each behavior was rated on a 1 (*not at all*) to 5 (*extremely*) scale, allowing for half-point ratings (e.g., 3.5). Scores were averaged across the 10 intervals to create global ratings.

Influence tactics. One group of coders independently rated the extent to which each participant used the five following influence tactics during each 30 second interval: (1) *Positive-direct* (using rational reasoning and logic to influence the partner; one coder

was dropped to improve reliability, ICC=.82); (2) *Positive-indirect* (using humor or softening influence attempts, such as "This isn't a big deal, but…"; one coder was dropped to improve reliability, ICC=.62); (3) *Negative-indirect* (the influence agent being self-deprecating or self-pitying, or trying to make the target feel guilty; one coder was dropped to improve reliability, ICC=.77). Two negative-direct influence tactics were also coded: (4) *Autocracy* (influence agents act superior or condescending toward influence targets; ICC=.87), and (5) *Hostility* (influence agents actively criticize or try to hurt their partner; ICC=.87) (see Appendix C for the full coding scheme). Following this, global hostility, autocracy, and constructive were averaged to create a Directness composite, and global positive-indirect and negative-indirect were averaged to create an Indirectness composite.

  Emotional expression. The second set of independent coders rated the extent to which participants displayed four emotions during each 30 second interval: anger/frustration (ICC=.85), sadness (ICC=.78), worry/anxiety (ICC=.72). Anger/frustration, sadness, and worry/anxiety were standardized and then averaged with participants' self-reports of these emotions to create a composite negativity measure (α=.78). In addition, coders rated emotional suppression—the extent to which participants appeared to be holding back emotions, as evidenced by their body language (e.g., fidgeting, holding parts of their body, smiling when talking about negative things; ICC=.59; see Appendix A for the full coding scheme).

<div align="center">

Results

</div>

Descriptive Statistics

Correlations and descriptive statistics for power and the hypothesized moderators (i.e., commitment, closeness, partner responsiveness, hostility, and exchange orientation) for both partners are shown in Table 1. First, actor and partner power are strongly negatively correlated, suggesting that there is good agreement between partners about the power dynamics in their relationship. Second, the only moderator significantly correlated with actor or partner power is hostility, which is not surprising given that it is a hypothesized outcome of power and a fairly small correlation. The relative lack of association between the moderators and power allows for better tests of moderation (Aiken & West, 1991).

Correlations and descriptive statistics for the outcomes measured in this study are presented in Table 2. Most outcomes that are not subsets of one another (e.g., anxiety and anger are both treated as indicators of emotional negativity) are not very highly correlated, but there are a few exceptions: Greater hostility is associated with more negative emotions, primarily anger; more negativity, particularly anxiety, is associated with more suppression; and more suppression is associated with more careful speech.

Finally, correlations between the outcomes and power/moderators are presented in Table 3. Many of them support the validity of key constructs. For example, replicating past findings, greater commitment is associated with less suppression, more empathic accuracy, and less hostility, and partners perceived as more responsive are also perceived as being less hostile. There is also some preliminary support for certain hypotheses. For example, greater actor and partner power are both associated with more hostility, and greater actor power is associated with marginally more anger.

Hypotheses 1-7: Consequences of Power for Behavior, Affect, Cognition, and Physiology

All analyses were run as mixed model regressions in an Actor-Partner Interdependence Model (APIM) framework (Kenny, Kashy, & Cook, 2006) using SPSS 20. This analysis technique models the effects of both couple members' (i.e., both partners') responses simultaneously and calculates all effects accounting for the nonindependence of the data between partners. Each outcome variable outlined in hypotheses 1-7 was regressed onto actor's reports of relationship power, partner's reports of relationship power, and the interaction between the two. A significant interaction (i.e., when actor power is high and partner power is low, or vice versa) is the best way to test whether power differences between the partners within a relationship predict an outcome; however, because the items on the RPI are worded to assess an individual's power in the relationship *relative to their partner*, the main effects of actor or partner power also can be used to test power-difference hypotheses. Both actor and partner reports on the RPI assess the power dynamic in the relationship, and thus both individually tap the balance of power in the relationship, just from different observers (see discussion section for more information). Regression results for tests of hypotheses 1-7 can be found in Table #, and all significant and marginally significant results (p<.09) are discussed below.

Behavioral consequences. Hypothesis 1 stated that higher power partners should use more direct influence tactics (1a), and lower power partners should use more indirect influence tactics (1b). Analyses showed no significant effects for power on direct influence tactic use. In direct contrast to hypothesis 1b, individuals who reported having

more power used more indirect tactics ($b=.13$, $p=.004$), but individuals whose partners reported having more power also used marginally more indirect influence tactics ($b=.08$, $p=.09$).

Hypothesis 2 stated that higher power individuals should be more hostile than lower power individuals. Actor power showed a marginal main effect on hostility in the expected direction ($b=.13$, $p=.08$), but no partner power effect or interaction.

When the other influence tactics were analyzed individually, there was a main effect of actor power on manipulation/supplication, such that powerful individuals used more manipulation/supplication ($b=.17$, $p=.01$). There were no other effects of actor or partner power on any other influence tactic.

Emotional consequences. Hypothesis 3 stated that lower power partners would experience more negative emotions overall than higher power partners (3a). Analyses showed no significant effects of power on negativity generally (i.e., collapsed across different emotions and measurement methods). Hypotheses 3 also suggested there would be a difference in the type of negative emotions evoked by conflict. Specifically, higher power partners should experience more approach-focused emotions, specifically anger (3b), but lower power partners would experience more inhibition-focused emotions, specifically anxiety (3c). Analyses showed a marginal main effect of actor power on anger, such that powerful individuals expressed more anger ($b=.18$, $p=.09$). Additionally, there was a significant actor power by partner power interaction predicting anger ($b=-.45$, $p=.01$), such that actors were most angry during the conflict discussion when both the actor and partner agreed the actor had greater power, and actors were least angry when

neither actors nor partners believed they had more power in the relationship (see Figure

1). This effect was driven by coded anger, which showed the same significant interaction

effect ($b=-.40, p=.02$), rather than self-reported anger, for which the actor power by

partner power interaction was not significant. There were no significant effects of power

on anxiety.

Hypothesis 4 stated that lower power partners would engage in more emotional

suppression during the discussion. Analyses showed no significant effects of power on

emotional suppression when collapsed across self-reports and coded suppression;

however, there was a marginal main effect of actor power on self-reported suppression,

such that individuals with greater power reported suppressing their emotions less, as

expected ($b=-.22, p=.06$).

Cognitive consequences. Hypothesis 5 stated that lower power partners would

speak more carefully during the conflict discussion (5a). Analyses showed a marginal

main effect for actor power ($b=-.20, p=.07$) and a significant main effect for partner

power ($b=-.23, p=.04$), such that actors were less careful with how they spoke during the

conflict when they or their partner reported more power. Additionally, lower power

partners were expected to be more empathically accurate than higher power partners

(Hypothesis 5b). Analyses showed no significant effects of power on empathic accuracy

overall, nor empathic accuracy for any specific emotion.

Physiological consequences. Hypothesis 6 stated that low power partners would

show greater electrodermal response (GSR) than higher power partners in response to

conflict. There were no significant effects of power on within-person changes in GSR

from baseline to conflict assessments. However, there were marginal effects of partner power on baseline GSR ($b=1.20$, $p=.07$) and conflict GSR ($b=1.12$, $p=.09$), such that individuals whose partners had more power had somewhat higher GSR. Hypothesis 7 stated that higher power partners would have faster heart rates than lower power partners in response to conflict. There were no significant effects of power on changes in heart rate, but there was a marginal effect of actor power on conflict heart rate, such that individuals who had higher power had somewhat higher heart rates during conflict ($b=2.34$, $p=.08$).

Summary. In sum, some support was found for certain hypotheses. As expected, higher power partners suppressed their emotions somewhat less (based on self-reports only), had somewhat greater heart rates during conflict (but not a significant increase from baseline), had somewhat lower skin conductance levels (but not significantly, controlling for baseline), displayed somewhat more hostility, and were angrier. However, only anger met the "gold standard" of yielding a significant actor by partner power interaction. Contrary to the hypotheses, no effects were found for direct influence tactic use, negativity, anxiety, empathic accuracy, or change in GSR or HR from baseline, and effects in unexpected directions emerged for indirect tactic use and careful speech.

Hypotheses 8-9: Moderators of the effects of power

To test the potential moderators of the effects of power outlined in hypotheses 8 and 9, additional APIM mixed model regressions were run regressing each main outcome (i.e., direct tactic use, indirect tactic use, hostility, negativity, anger, anxiety, suppression, careful speech, empathic accuracy, change in GSR, and change in heart rate) on actor

power, partner power, the actor moderator, the partner moderator, and all necessary

interactions included in the actor power*partner power*actor moderator and actor

power*partner power*partner moderator. Actor and partner moderators were included in

each model because only the high power partner's moderating beliefs/actions were

hypothesized to affect power differences. As there were no hypotheses regarding the

interaction between actor moderator*partner moderator, this interaction term was not

included in the analyses. Interactions were decomposed and described here if $p<.06$ in an

attempt to reduce familywise error but still explore the most promising findings (see

discussion for more information). Interactions supporting the hypotheses would show

more extreme effects of actor and partner power (i.e., larger slopes) when the moderator

was low (or high, for hostility and exchange), but reduced effects (i.e., smaller slopes)

when the moderator was high (or low, for hostility and exchange).

Commitment as a moderator. Results for analyses testing commitment as a

moderator are shown in Tables 5 and 6. When relationship commitment was included as

a moderator with power predicting the behavioral outcomes, there were no effects on

hostility or direct influence tactics generally. Analyses did show a significant three-way

interaction between actor power, partner power, and partner PRQC predicting indirect

tactic use ($b=-.27$, $p=.02$), such that when both the actor and partner thought they had

low power, actors used more indirect influence tactics if their partner was more

committed (see Figure 3).

There were no significant interaction effects between commitment and power on

any emotional outcomes.

In terms of cognitive outcomes, there was a marginally significant interaction between partner power and actor commitment on careful speech ($b=-.25$, $p=.06$), such that highly committed actors spoke less carefully when their partners held more power (see Figure 2 Panel A). There were also significant interactions between partner power and actor commitment ($b=-.18$, $p=.01$; see Figure 2 Panel B), and actor power and partner commitment ($b=-.14$, $p=.04$; see Figure 2 Panel C), on empathic accuracy, such that greater commitment was associated with better empathic accuracy, but only when either actors or partners thought they had more power.

There were no significant interaction effects between commitment and power on either heart rate or GSR.

Closeness as a moderator. Results of analyses testing closeness as a moderator are shown in Tables 7 and 8. When relationship closeness was treated as a moderator of power predicting behavioral outcomes, there was a significant interaction between partner power and partner closeness ($b=.11$, $p=.006$), such that actors whose partners had less power but felt more close to them used fewer indirect tactics (see Figure 4 Panel A). Hostility revealed a marginal interaction between actor closeness and actor power, such that power was associated with hostility only for actors who felt close to their partners ($b=.13$, $p=.05$; see Figure 4 Panel B).

For the affective outcomes, there was a significant interaction between actor power, partner power, and actor closeness ($b=.25$, $p=.003$). When actor closeness was low, having one partner with more power resulted in greater negativity for the actor (regardless of whether the high power partner was them or their partner). However, actors

experience the least negative emotions when both partners believe they (actors) have less power, but these effects are reduced when actor closeness is high (see Figure 6 Panel A). This effect appears to be driven by anger, which shows a similar interaction pattern ($b=.22$, $p=.04$) (see Figure 6 Panel B).

Anxiety shows a different interaction pattern between actor power, partner power, and actor closeness ($b=.26$, $p=.03$). Anxiety is positively associated with actor power when partner power is low and actors feel close, but negatively associated with actor power when partner power is low and actors feel close (see Figure 6 Panel C). For suppression, a marginal interaction between actor power, partner power, and actor closeness indicated that when actors feel less close, power has little effect on their suppression, but when actors feel more close, actors with less power who have partners with more power suppress the most ($b=.20$, $p=.06$; see Figure 6 Panel D).

In terms of cognitive outcomes, partner closeness interacted with actor power and partner power separately to predict careful speech. In both cases, greater power (for either the actor or the partner) was associated with less careful speech only when partners felt close to actors (see Figure 5 Panels A and B). There was also a three-way interaction between actor power, partner power, and partner closeness predicting empathic accuracy. Actor power was negatively associated with empathic accuracy when partners had less power and felt less close, but positively associated when partners had less power and felt more close (see Figure 7).

Finally, there was an interaction between partner closeness and actor power predicting change in GSR, such that greater power was associated with smaller increases

in GSR when partners felt more close but power was associated with greater increases in GSR when partners felt less close (see Figure 5 Panel C). There were no effects for heart rate.

Partner responsiveness as a moderator. Results of analyses testing perceived partner responsiveness during the discussion as a moderator are shown in Tables 9 and 10. Partner responsiveness had no interaction effects with power effects on behavioral outcomes.

However, there was a marginally significant interaction between actor power, partner power, and partner's perceived partner responsiveness predicting negativity ($b=-.32$, $p=.05$). Effects of power on negativity for actors whose partners perceived them as less responsive were fairly minor, but when actors were perceived as more responsive and their partner had less power, their negativity was positively associated with their level of power. No significant effects emerged for anger, anxiety, or suppression.

There was marginally significant interaction between partner power and partner perceived responsiveness predicting careful speech ($b=-.25$, $p=.05$). Partner power was negatively associated with careful speech only when partners perceived actors as more responsive. There was also a significant partner power by actor perceived partner responsiveness interaction predicting empathic accuracy ($b=.21$, $p=.02$), such that partner power was negatively associated with empathic accuracy only when actors perceived their partners as more responsive.

There were no interaction effects of perceived partner responsiveness on change in heart rate or GSR.

Exchange orientation as a moderator. Results of analyses testing exchange orientation as a moderator are shown in Tables 11 and 12. There were no interaction effects of exchange orientation on direct or indirect tactic use, but there was a significant interaction between partner power and actor exchange orientation predicting hostility ($b=.32$, $p=.04$), such that partner power was negatively associated with hostility only when actor exchange orientation was low (See Figure 9 Panel A).

For affective outcomes, there was a significant interaction between partner power and actor exchange orientation predicting negativity ($b=.30$, $p=.03$), showing that although actors were somewhat negative when their partners had less power, regardless of their exchange orientation, they felt most negatively when they were more exchange orientated with a high power partner and least negatively when they were less exchange oriented with a high power partner (See Figure 9, Panel B). Anger showed a similar partner power by actor exchange orientation interaction ($b=.51$, $p=.006$; see Figure 9 Panel C), but also a significant actor power by partner exchange orientation interaction ($b=.38$, $p=.04$) such that actor power was only associated with anger when partner exchange orientation was high (see Figure 9 Panel D).

There were no interaction effects of exchange orientation on anxiety, suppression, careful speech, empathic accuracy, or change in heart rate or GSR.

Hostility as a moderator. The results of analyses testing the effects of hostility on the relation between power and behavioral, affective, cognitive, and physiological outcomes are shown in Table #. Hostility could not be tested as a moderator of hostility or direct influence tactic use (which includes hostility), but there was a significant partner

power by partner hostility interaction predicting indirect influence tactic use (b=.23, p=.006). Individuals who had low power partners who were highly hostile used indirect influence tactics the least (see Figure 10 Panel A).

For affective outcomes, there was a significant interaction between actor power, partner power, and actor hostility predicting negativity (b=-.72, p=.02). When actor hostility is low, actor power is positively associated with negativity, but when actor hostility is high and partner power is high, actors feel most negatively when they report having low power (see Figure 11). Predicting anger, there were significant interactions between actor power and actor hostility (b=-.27, p=.04; see Figure 11 Panel B), actor power and partner hostility (b=-.28, p=.02; see Figure 11 Panel C), and partner power and actor hostility (b=-.27, p=.02; see Figure 11 Panel D). In all cases, anger was positively associated with power when hostility was low, but negatively associated with power when hostility was high. There were no significant interaction effects for hostility on anxiety, suppression, careful speech, empathic accuracy, or change in heart rate or skin conductance.

Summary. Overall, there were many moderation effects for commitment, closeness, partner responsiveness, exchange orientation, and hostility. However, almost none of the patterns of interactions aligned with the hypotheses. Often, power showed a different pattern of results based on moderators, but not a stronger or weaker pattern, particularly for emotional responses: for example, the impact of actor power on direct influence tactic use was roughly equal when actors felt more or less close, but the association was positive when actors felt more close and negative when actors felt less

close. In other instances, the effect was weakened, but in the wrong direction: for example, actor power had a greater impact on empathic accuracy when partners were more committed, as did actor closeness on hostility.

There were a few exceptions when the hypothesized pattern did roughly emerge. When partner hostility was low, partner power had less of an effect on indirect tactic use, such that only individuals whose partners were more hostile but had less power used fewer indirect tactics. When actor closeness was low, the effects of power on negativity and anger were more extreme than when anger was high, but high power actors with low power partners (who were expected to be the most angry, but the least negative) were just as angry/negative as low power actors with high power partners (who we would expect to be the least angry, but the most negative). The difficulties in interpreting these interactions, and a lack of consistent pattern across moderators or related outcomes, makes these hypotheses in sum unsupported.

Gender as a moderator. Exploratory question 1 suggested gender might have an unknown effect on power. The effects of gender were first tested on the simple actor power-partner power models used to test hypotheses 1-7. Actor gender was added as a main effect, and all possible interactions were included. All significant interactions with gender that emerged are discussed below. Although actor gender did not moderate the effect of power on direct influence tactic use, including it in the model revealed a main effect of partner power, such that when partners had more power actors were less direct ($b=-.14, p=.007$). The previously found actor power effects on indirect tactic use remained controlling for gender, but the marginal effect for hostility disappeared.

A three-way interaction emerged between actor power, partner power, and gender predicting negativity ($b=.21$, $p=.02$). Men experienced less negativity overall and it was less affected by actor or partner power, but women were generally higher on negativity, with negativity positively associated with actor power when partner power was low and negatively associated when partner power was high. An actor power by partner power interaction emerged for anger ($b=-.42$, $p=.03$), such that anger was only positively associated with actor power when partner power was low. There were no significant effects for anxiety. There were no effects on suppression, although the marginal actor power effect for self-reported suppression remained with gender included in the model. The marginal main effect of actor power on careful speech remained in the model including gender, but the effect of partner power disappeared. There were no effects for empathic accuracy. The marginal main effects of partner power on baseline and conflict GSR disappeared when gender was, and there were no significant effects for heart rate.

Gender was also included in the models testing the other moderators: commitment, closeness, partner responsiveness, exchange orientation, and hostility. To keep the models from becoming too complex, two models were run for each moderator and outcome: actor power, partner power, actor gender, actor moderator, and all possible interaction in one model, and actor power, partner power, actor gender, and partner moderator in a second model. All significant interactions with gender ($p<.05$) are reported below.

Commitment and closeness showed no interaction effects with gender predicting any outcome. For partner responsiveness, there was a significant interaction between

actor power, partner perceived responsiveness, and gender predicting negativity (b=.19, p=.04). Negativity was negatively associated with actor power and partner perceived responsiveness, except for men whose female partners perceived them as responsive, who remained uniformly low in negativity. There was also a significant four-way interaction between actor and partner power, partner perceived responsiveness, and gender predicting anxiety (b=-.48, p=.03). Men whose partners have less power and who perceive them as less responsive show a positive association between anxiety and power, but men whose partners have less power but perceive them as more responsive show a negative association between power and anxiety. Additionally, there was a significant interaction between partner power, partner perceived responsiveness, and gender predicting empathic accuracy (b=.13, p=.01). Neither partner power nor partner perceived responsiveness had much effect on men, but for women, partner power was positively associated with empathic accuracy when their male partners perceived them as more responsive, but negatively associated when their partners perceived them as less responsive.

For exchange orientation as a moderator, there was a significant four-way interaction with partner exchange orientation predicting indirect tactic use (b=.33, p=.03). Although there were no effects on negativity, there was a significant four-way interaction with actor exchange orientation for anger (b=.61, p=.03), such that partner exchange orientation and power have little effect on anger except for women whose partners are highly exchange oriented and lack power, for whom actor power is positively associated with anger. Both actor and partner exchange orientation show four-way

interactions for anxiety ($b=-.63$, $p=.04$; $b=-.61$, $p=.04$, respectively). For actor exchange orientation, men show few effects, but for exchange oriented women with low power partners, power is negatively associated with anxiety, while the opposite is true for less exchange oriented women with low power partners. For partner exchange orientation, women show a negative association between anxiety and actor power, except for women whose partners are less exchange oriented and have less power. In contrast, men whose partners were more exchange oriented were more anxious if they had more power and their partner did not, but the opposite was true when their partners were less exchange oriented. Finally, there was a four-way interaction with actor exchange orientation predicting empathic accuracy ($b=.26$, $p=.04$). When partner power was high (across genderes and exchange orientation levels), actor power had little effect on empathic accuracy. However, power and empathic accuracy were positively associated for more exchange oriented men and less exchange oriented women whose partners had more power, but power and empathic accuracy were negatively associated for less exchange oriented men and more exchange oriented women whose partners had more power.

For hostility as a moderator, there was a significant interaction between actor power, hostility, and gender ($b=-.20$, $p=.04$) predicting indirect tactic use, such that high power women who weren't hostile used more indirect influence tactics. There was also a significant four-way interaction with partner hostility predicting negativity ($b=.99$, $p=.004$). Women with hostile partners showed a strong positive association between actor power and negativity when partner power was low, but a strong negative association between actor power and negativity when partner power was high. This

appeared to be driven by anxiety (rather than anger), which showed the same significant

four-way interaction ($b=1.11$, $p=.02$). A four way interaction with actor hostility

predicting empathic accuracy ($b=-.50$, $p=.01$) showed that actor power was negatively

associated with empathic accuracy when partner power was high and positively

associated when partner power was low for high hostility women and low hostility men,

but the opposite was true for low hostility women and high hostility men. Finally, there

was a four way interaction with actor hostility predicting change in GSR ($b=-6.35$,

$p=.02$). Men showed much more variability in change in GSR than women, with high

hostility men showing positive associations between actor power and change in GSR

when partner power was low but negative associations when partner power was high.

Low hostility men, however, showed the opposite pattern: negative associations between

actor power and change in GSR when partner power was low but positive associations

when partner power was high.

Discussion

This study examined the extent to which well-documented power differences

from the existing literature are applicable in close relationships by testing the behavioral,

affective, cognitive, and physiological outcomes of having or lacking power in a romantic

relationship during conflict with one's romantic partner. Analyses revealed some

evidence of hypothesized power differences: higher power partners were angrier,

suppressed their emotions somewhat less (based on self-reports only), had somewhat

greater heart rates during conflict (but not a significant increase from baseline), had

somewhat lower galvanic skin response (but not significant controlling for baseline), and

displayed somewhat more hostility than lower power partners. However, only anger showed the expected actor power by partner power interaction, in which high power actors paired with low power partners were most angry. When we tested moderators of the effects of power (i.e., commitment, closeness, partner responsiveness, exchange orientation, and hostility), many significant effects were found, but very few conformed to the hypothesized patterns, making these hypotheses largely unsupported. There was considerable evidence that gender moderated peoples' response to having and lacking power, but once again, there was a lack of consistency across results, making them difficult to interpret. These findings are discussed in greater detail below.

Effects of power on behavioral, affective, cognitive, and physiological outcomes

We expected that higher power partners should use more direct influence tactics (particularly hostility), and lower power partners should use more indirect tactics during conflict discussions. We found no effect of actor or partner power on the use of direct influence tactics, and individuals who reported having more power actually used more indirect tactics. There are a few possible explanation for this pattern of results. First, high power individuals may be more likely to attempt to influence their partners, showing higher rates of use across different tactics. However, not all tactics revealed a positive association with power.

Alternatively, the pattern may be due to the lack of a distinction in the broad groupings of indirect vs. direct tactics between negative and positive influence tactics (Overall et al., 2009). Indeed, constructive tactics (e.g., laying out pros and cons, structuring the conversation) were the most commonly used tactic across power levels,

and may have outweighed negative direct tactics such as hostility (which showed a marginal main effect for actor power) in the directness composite. Furthermore, there was a main effect of power on the use of manipulation/supplication, a negative indirect tactic, such that high power individuals used more manipulation and supplication (e.g., making the partner feel guilty, being self-pitying). This suggests that power may not affect the extent to which individuals use direct vs. indirect tactics, but positive vs. negative tactics. Negative influence tactics are risky in the context of ongoing relationships, as they are associated with declines in satisfaction (particularly in the short-term), but they can also demonstrate engagement in the relationship and promote change and growth (Baker, McNulty, & Overall, 2014; Overall et al., 2009). High power partners may feel more comfortable taking on these risks than low power partners.

Examining the results for affective outcomes, we found no effect of power on negativity overall, although it was hypothesized that low power partners would experience more negative emotions during conflict. However, when the different negative emotions were examined separately, a strong effect emerged for anger. Individuals with greater power who also had lower power partners (i.e., agreement regarding the power dynamic in the relationship) experienced the most anger. This effect appears to be driven by anger as rated by coders rather than anger as reported by the participants themselves. That suggests that even if these high power partners were not feeling especially angry, they expressed themselves in a more aggressive or irritable manner. This could have important implications for relationship quality, depending on how lower power partners interpreted such expressions. Future research should consider the partner's perceptions of

powerful individuals' anger and how these interactions affect the relationship more broadly.

Although low power partners were expected to experience more anxiety during conflict, no effects of power on anxiety emerged. One potential explanation for this is that, for couples with large power differences, conflict may be an unusual situation: typically, the low power partner may back down more easily, avoiding actual conflicts (Simpson et al., 2015). Thus, when the low power partner does not acquiesce to the higher power partners wishes so easily, the resulting conflict may be more stressful and anxiety-inducing for both partners. There was no overall effect of power on emotional suppression, but there was a marginal effect on self-report suppression in the expected direction—low power partners reported suppressing their emotions somewhat more than high power partners. This may suggest that low power individuals are suppressing more purposefully and might be aware of it, whereas higher power partners may suppress more subconsciously.

In terms of cognitive outcomes, neither hypothesis regarding the effect of power was well supported. As expected, individuals who reported having greater power in their relationship reported speaking less carefully; however, individuals whose partner said they (the partner) held more power also reported speaking less carefully. These effects appear to be in opposition to one another. Furthermore, there were no effects of power on empathic accuracy. This could be due to how empathic accuracy was calculated. By taking the absolute value of the difference between actor and partner reports of emotions experienced, we estimate the level of accuracy of individuals' perceptions of their

partners, but not the direction of inaccuracy (i.e., over vs. underestimation), following standard methods for calculating empathic accuracy (Howland & Rafaeli, 2010). If power leads individuals to be inaccurate in systematic ways, a true power difference in empathic accuracy might be missed using this method. For example, high power individuals might be paying less attention to their partners and missing cues of the low power partners' emotional experiences, leading them to underestimate the low power partners' emotions, whereas lower power partners might be more concerned about any signs of negativity they detect from their higher power partners, leading them to overestimate the high power partners' emotions. This is an important direction to explore in future work.

Finally, there were no effects of power on change in GSR or heart rate between conflict and baseline. However, baseline and conflict GSR were each marginally negatively associated with power as expected. As the baseline physiological recordings were taken immediately before the conflict discussion, after the conflict topic had already been decided upon, it is possible that low power partners' inhibitory responses may have already been activated during the baseline, making it more difficult to detect changes in GSR.

Moderating Effects of Commitment, Closeness, Partner Responsiveness, Exchange Orientation, Hostility, and Gender

We also examined perceptions and behaviors that are very important and often unique in romantic relationships (compared to more transient relationships) as potential moderators of the effects of power, to attempt to pinpoint what aspects of close relationships might lead them to operate different from more casual relationships in terms

of power. The effects of the moderating variables—commitment, closeness, partner responsiveness, exchange orientation, hostility, and gender—were difficult to interpret. There were many significant interaction effects with actor and/or partner power, but very few were in the expected directions, with commitment, closeness, and partner responsiveness alleviating the effects of power, and with exchange orientation and hostility exacerbating the effects of power. Furthermore, there were not many consistent patterns across outcomes or moderators, making it difficult to draw conclusions or feel confident in any given effect. Rather than comment on each individually, I will discuss some broader themes that emerge from examining these analyses as a whole.

First, there were more moderation effects for commitment, closeness, and hostility than for exchange orientation or partner responsiveness. It is interesting to note that the most effective moderators did not break down into clear categories, such as factors that could make power differences more extreme (exacerbating) vs. less extreme (alleviating), or general perceptions about the relationship prior to the discussion vs. specific behaviors within the discussion. Instead, the two alleviating relationship perceptions (i.e., commitment and closeness) and the one exacerbating discussion behavior (i.e., hostility) were most impactful. Negative behaviors and perceptions generally outweigh positive behaviors and perception in the strength of their impact on individuals (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), but in this case, positive relationship perceptions had a stronger and more diverse impact, showing a greater number of moderating effects. Examining a wider range of negative behaviors (e.g., being dismissive or defensive) and positive relationship perceptions (e.g., trust)

might clarify the extent to which this is a true effect or an artifact of this specific lab task or set of moderators. Furthermore, it would be useful to determine whether commitment and closeness are influencing the effects of power through what behaviors people are using (or how they are perceiving what their partners are doing) to understand the more proximal pathways through which commitment and closeness shape the experience of having vs. lacking power.

Second, partner beliefs and behaviors moderated the effect of power on actor outcomes more than actor beliefs and behaviors. This emphasizes the strong interdependence between romantic relationship partners, as individuals outcomes are shaped by their partners' thoughts, feelings, and behaviors, sometimes even more than their own (Rusbult & Van Lange, 2003). Many power theories suggest that individuals who have greater power in relationships should be less dependent and less impacted by their partners than their less powerful individuals, known as the *principle of least interest* (Thibaut & Kelley, 1959; Waller & Hill, 1951). However, in this study, that does not seem to be the case—more powerful individuals were generally affected *differently*, not *less*, by their partners. This may be because when early work on the principle of least interest occurred in the 1950's and focused on married couples, all of whom experienced stronger structural and moral ties and pressures to remain in their relationships than the modern day dating, cohabitating, and married couples contained in this sample. Future work should examine the effects of demographic differences and structural elements of relationships on power to determine if this is the case.

Finally, gender was explored in conjunction with power and the other moderators. The few effects of power previously identified were highly robust when controlling for gender, sometimes even strengthening previously marginal analyses, and only one power by gender interaction emerged (predicting negativity). This indicates that even though gender yielded main effects for many of the outcomes, power processes operate fairly similarly in men and women.

However, many interactions emerged between power, gender, and certain moderating variables. Although commitment and closeness revealed many moderating effects with power, gender did not modify any of these associations. In contrast, the two moderators with the fewest interactions with power, partner responsiveness and exchange orientation, showed many significant interactions with gender, as did hostility. In many cases, men and women showed opposite patterns of results based on the moderators. For example, men and women showed opposite patterns for the effects of actor hostility on the relation between actor and partner power predicting empathic accuracy. The findings for hostility are less surprising, as women are known to detect threat and rejection more quickly and be more hostile in response (Ayduk, Downey, Testa, Yen, & Shoda, 1999); power may affect rejection sensitivity differently in men and women and lead to opposite hostility effects. However, gender moderation effects have not typically been found in past work on partner responsiveness and exchange orientation.

Why so little support for the primary hypotheses regarding power effects?

Overall, there was not much support for the primary hypotheses tested in this study. Understanding why might help future researchers studying the effects of power in

relationships to design studies that can fill these gaps. In this section, potential explanations for the inconsistent and unconvincing patterns of results are discussed, with a focus on the strengths and weaknesses of this study and promising directions for future research.

First, could the null, weak, and sometimes inconsistent findings be attributable to the lab situation that was used to draw out power differences? All of the conflicts were screened to be real areas of disagreement and major problems. In fact, participants were pushed to identify more major conflicts if the original topic they proposed was too minor or not a true area of disagreement (e.g., both partners agree they do not have enough money and need to budget better). Our outcome measures also showed that the situation elicited negative emotions and behaviors, suggesting that the conflicts were meaningful and not taken lightly. Many participants reported during debriefing that they communicated in the lab in a similar fashion to their everyday, unobserved conversations at home.

However, there were a few issues with the study design that could have masked power differences. The discussion was fairly short (only 5 minutes long). Very few couples came to a final decision regarding their conflict by the end of their discussion, and during debriefing some couples said they felt as if they had only "scratched the surface" of the issue during the discussion. Couples were given a few moments to think about the last time they discussed the conflict issue before starting to talk, which helped them launch into the discussion more quickly, but this may not have been enough. Longer

discussions might allow for frustrations to build up and more power differences in

dealing with that frustration to emerge.

Second, the lack of findings could be due to how power and/or other variables in

this study were measured. The use of unvalidated measures that do not accurately tap the

construct of interest has long been a problem in psychology because it can obscure true

associations (Cronbach & Meehl, 1955; Fiske & Campbell, 1992). The RPI, however, has

undergone rigorous validation testing and has good convergent and divergent validity

evidence with both self-report and behavioral measures, as well as good test-retest and

internal reliability (Farrell, Simpson, & Rothman, 2015). Furthermore, we found good

agreement between partners about the power dynamics in their relationship: actor and

partner power correlated -.50.

Other correlations between outcomes and moderators also replicate past findings,

suggesting that there was good validity for those measures, as well. However, some

measures could have been calculated differently. For example, assessing overestimation

vs. underestimation with the empathic accuracy measure instead of using absolute values,

or getting baseline measures of physiological signals when participants were not

preparing to have a conflict discussion with their partner could produce different and

perhaps stronger or more theoretically consistent results. Using additional items to

measure each emotion (e.g., having participants rate how angry, frustrated, and irritable

they were rather than only angry) may have also provided more reliable and detailed

information regarding their emotional states, but would have been time consuming to

collect given that participants would have to rate all of these emotions ten times throughout the discussion playback.

Third, there could be issues with the data analytic tactic that was used. Utilizing an APIM framework allowed us to statistically control the interdependence between partners' responses and provided a more rigorous test of the hypotheses. However, there are some areas analytically where this study may have fallen short. For instance, the study might be somewhat underpowered to detect true effects, especially higher-order interactions. With a total of 125 couples, this sample was fairly large for a dyadic interaction study, but if the true effects were small or there were three-way or four-way interactions to be found, this study may have been powered to detect them. Indeed, there were many marginally significant results, and recruiting a larger sample could have rendered those effects significant; however, the effect sizes would still be small in magnitude (r's between .15 and .24, putting the effects in the small-to-medium range according to Rosenthal [1996]), and it's equally possible that greater statistical power could have revealed the marginal trends to be spurious. Although this study collected a larger sample than typically used in dyadic interaction studies to increase statistical power, the exact level of power is unknown as there are currently no methods for estimating power in APIM studies involving couples. As social psychologists learn more about the consequences of underpowered studies and push for more statistical rigor in this domain (e.g., Maxwell, 2004; Kelley & Preacher, 2012), the need for a priori power tests for all types of analyses will be essential in future research.

Relatedly, given the large number of analyses, this study is at risk for high family-wise error rates, which can lead to significant results when the actual effects are null. Some efforts were made to reduce the rate of family-wise error in this study. For example, we did not test any outcomes or moderators that we did not have a priori predictions for (except gender), and for moderation analyses, only outcomes specifically identified by the hypotheses were tested, and only significant ($p<.05$) interaction effects were deconstructed. However, with eleven outcomes and six moderators proposed for actors and partners, many analyses were run with numerous interaction terms. Setting a Bonferroni correction, which divides the standard alpha level for significance by the number of hypotheses being testing to set a new p-value threshold in order to correct for family-wise error, would have rendered the threshold for significance so high that none of the effects reported would have been significant. As one of the first studies to test the effects of actor and partner power on romantic couples' interactions, this study should be viewed as fairly exploratory, and further replication is critical in order to determine how robust the effects reported here actually are and which ones may be erroneous.

Another analytical problem lies in conceptualizing the actor power by partner power interaction term. It seems reasonable to expect that the clearest evidence for power effects should be a significant actor power by partner power interaction: Both partners should agree about who has more power in the relationship, and the individuals identified by both partners as having higher or lower power should provide the best and most direct evidence for power effects. However, as previously discussed, the RPI measures power *relative to one's partner*. As a result, the RPI not only assesses how much power an actor

has; it also assesses how much more or less power an actor has compared to his/her partner (according to the actor). This makes it fairly easy to interpret couples that are "on the diagonal"—that is, couples in which both partners agree about who has more vs. less power in the relationship. However, how do we interpret couples in which neither or both partners thinks they have more power? Are their power differences less extreme or less salient than those of couples on the diagonal? Is one partner just delusional about the power dynamics at play in their relationship? It is difficult to predict how individuals in these "off-diagonal" relationships should score on the outcomes studied in the current research. If one expected middling levels on outcomes, somewhere between high and low power partners, perhaps two significant main effects in opposing directions (e.g., a positive effect for actor power, and a negative effect for partner power predicting anger) would provide better evidence for power differences rather than statistical interactions. However, the results also do not reveal this pattern for any outcome. Having a clearer predicted pattern of results including these off-diagonal individuals may make it easier to determine when patterns of results are conforming to hypotheses and when they are not.

Additionally, given the high correlation between actor and partner power (-.50), there may not be many off-diagonal couples. This can make it more difficult to detect interactions due to lack of variability (Aiken & West, 1991). Including multiple highly correlated predictors in one regression model can also create problems with multicolinearity, but this is not a major problem in this study because the main effects that appear for power in the zero-order correlations also replicated well in the regression models. Greater understanding of couples who do not agree regarding their power

dynamics, and perhaps greater sampling of these couples, could clarify the interpretation of some of interaction effects.

Finally, the lack of support for these hypotheses could be due to issues with the theoretical perspectives from which they were derived. Perhaps power in relationships does not result in BIS and BAS differences, as power outside of close relationships has shown time and time again (Keltner, Gruenfeld, & Anderson, 2003). If this is true, classic power theories in social psychology may not be as applicable in to power dynamics in close, ongoing relationships. The ongoing nature of close relationships and their norms for positivity and egalitarianism may preclude differences in the types of outcomes typically studied in work on power between strangers. Perhaps focusing more on outcomes unique to close relationships would yield more systematic and meaningful power differences. For example, newly published work shows that less powerful individuals in relationships tend to adopt their partners' goals and prioritize them above their own goals, showing transformation of motivation—putting what is best for their partner and the relationship above their own immediate needs (Laurin et al., 2016). Perhaps other outcomes related to transformation of motivation, such as willingness to sacrifice (Farrell, Simpson, Overall, & Shallcross, 2016) or forgiveness (Finkel, Rusbult, Kumashiro, & Hannon, 2002) would similarly be linked to power in close relationships.

Alternatively, there may be key moderators of the effects of power in close relationships that we did not assess, but if included would clarify the current results. The moderators tested here were primarily relational, focusing on how individuals perceived their relationship with their partner or how they interacted with them. There are other

relational moderators, however, that could change the effects of power; for instance, perhaps newly formed couples or individuals in more casual relationships would behave more similarly to stranger dyads than the longer-term (together for at least 1 year), more committed couples recruited for this study. Other categories of moderators might also be impactful. These moderators could be individually-based. For example, perhaps only individuals with aggressive personalities (Buss & Perry, 1992) would act on their relational power with partners in the same way that powerful individuals do with strangers, or perhaps individuals with lower self-esteem might not utilize their power often or effectively. Additionally, moderators could be more situationally-based—for example, power differences might emerge only for issues that are important to the more powerful partners, causing them to push for what they want more forcefully, but that are unimportant to low power partners, making them more willing to acquiesce. Future research should examine a broader range of moderators to understand when and to what extent power differences emerge in relationships.

In conclusion, power is a key social construct and a defining characteristic for most of our relationships, both casual and intimate. This study suggests, however, that power operates very differently in different social contexts. Future research on power must move beyond studying stranger dyads and individuals in hierarchical organizations to understand how power operates in other facets of our lives and shapes our interpersonal experiences in the context of close relationships.

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Footnotes

[1] Commitment can also be a source of relational power if partners who are relatively less committed to the relationship hold greater power (Huston, 1983). If so, high power partners may not reach high levels of commitment, meaning the two measures might be highly correlated. However, relative commitment should primarily affect power more than absolute commitment. Two individuals could both be highly committed to one another, but one is slightly less committed (e.g., score of 6 on a 7-point scale) than the other (score of 7). That individual should have more power, but still be highly committed and show transformation of motivation.

[2] Currently, there are no known procedures for calculating statistical power for dyadic studies. A sample size of 125 couples is larger than average for this type of study, and several prior published studies with approximately 100 couples have found predicted, statistically significant effects (e.g., Bradford, Feeney, & Campbell, 2002; Rholes et al., 2007; Simpson, Winterheld, Rholes, & Oriña, 2007).

Table 1 *Correlations and Descriptive Statistics for Power and Moderators*

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Actor Gender (1=male, -1=female)	--												
2. Actor Power	-.39**	--											
3. Actor Commitment	-.05	.02	--										
4. Actor Closeness	.11†	-.02	.28**	--									
5. Actor PPR	-.06	-.01	.12†	.09	--								
6. Actor Exchange Orientation	-.05	.03	-.24**	.002	-.02	--							
7. Actor Hostility	-.16*	.17**	-.14*	-.04	-.27**	.07	--						
8. Partner Power	.39**	-.50**	-.01	.05	-.02	-.05	-.16*	--					
9. Partner Commitment	.06	-.01	.32**	.22**	.18**	-.18**	-.16*	.02	--				
10. Partner Closeness	-.10†	.05	.22**	.38**	.06	-.03	-.06	-.02	.28**	--			
11. Partner PPR	.06	-.02	.18**	.06	.23**	-.06	-.23**	-.01	.12†	.09	--		
12. Partner Exchange Orientation	.05	-.06	-.18**	-.03	-.06	.32**	.06	.03	-.24**	.002	-.02	--	
13. Partner Hostility	.16*	-.16*	-.15*	-.06	-.23**	.06	.28**	.17**	-.14*	-.04	-.27**	.07	--
Mean	--	4.15	6.42	4.96	3.07	2.24	1.40	4.15	6.42	4.96	3.07	2.24	1.40
SD	--	.62	.79	1.36	.84	.55	.63	.62	.79	1.36	.84	.55	.63

PPR=Perceived Partner Responsiveness; †*p*<.10. *p*<.05. **p*<.01.

Table 2   *Correlations and Descriptive Statistics for Outcomes*

Measure	1	2	3	4	5	6	7	8	9	10	11
1. Actor Direct Tactic Use	--										
2. Actor Indirect Tactic Use	.12†	--									
3. Actor Hostility	.47**	.24**	--								
4. Actor Negativity	-.09	.08	.31**	--							
5. Actor Anger	.30**	.20**	.71**	.65**	--						
6. Actor Anxiety	-.30**	-.07	-.07	.75**	.15*	--					
7. Actor Emotional Suppression	-.13*	.06	-.05	.38**	.04	.52**	--				
8. Actor Empathic Accuracy	.02	-.01	.11†	.39**	.38**	.23**	.14*	--			
9. Actor Careful Speech	-.01	-.02	-.04	.24**	.07	.28**	.37**	.18**	--		
10. Actor Change in GSR	-.04	.06	.07	-.02	.003	.01	-.003	-.04	.16*	--	
11. Actor Change in Heart Rate	.19**	.06	.03	.04	.07	-.04	-.03	.07	.06	-.06	--
Mean	2.39	1.44	1.40	.01	.01	.01	.003	.61	3.00	4.13	4.55
SD	.43	.37	.63	.62	.84	.80	.75	.53	.91	3.47	5.52

PPR=Perceived Partner Responsiveness; †$p<.10$. *$p<.05$. **$p<.01$.

Table 3   *Correlations between Outcomes and Power and Moderators*

Measure	Direct tactic use	Indirect tactic use	Negat-ivity	Anger	Anxiety	Emotional Suppr-ession	Empathic Accuracy	Careful Speech	Change in GSR	Change in HR
Actor Gender (1=male, -1=female)	-.04	-.04	-.20**	-.12†	-.19**	-.003	.06	-.02	-.19**	.18*
Actor Power	.16*	.16*	.09	.12†	-.002	-.10	-.04	-.06	.08	.03
Actor Commitment	.10	.10	-.09	-.11†	-.10	-.16*	-.24**	-.06	-.03	-.003
Actor Closeness	.09	.01	-.04	-.003	-.06	-.09	.01	.01	.01	-.10
Actor PPR	-.16*	.02	-.09	-.28**	.07	-.08	-.10	.18**	.12	-.06
Actor Exchange Orientation	-.003	-.05	.14*	.11†	.13*	.13*	.01	.12†	.04	-.02
Actor Hostility	.46**	.24**	.31**	.72**	-.07	-.05	.11	-.04	.07	.03
Partner Power	-.08	.03	-.05	-.08	-.03	.06	.07	-.09	-.11	.09
Partner Commitment	-.04	-.06	-.26**	-.23**	-.19**	-.20**	-.19**	-.09	-.01	-.04
Partner Closeness	-.03	-.14*	.002	.003	-.01	-.06	.02	-.01	-.02	-.07
Partner PPR	-.05	.01	-.22**	-.28**	-.11	-.21**	-.04	.01	-.01	.12
Partner Exchange Orientation	.02	-.01	.09	.07	.11†	.10	.07	.17**	.02	-.03
Partner Hostility	.16*	-.16*	-.16*	-.06	-.23**	.06	.28**	.17**	-.14*	-.04

PPR=Perceived Partner Responsiveness; †p<.10. *p<.05. **p<.01.

Table 4. *APIM mixed models predicting behavioral, affective, cognitive, and physiological outcomes from actor and partner power*

	Intercept	Actor power	Partner power	Actor power* Partner power
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
Behavioral outcomes				
Direct tactic use (H1)	2.38 (.03)**	-.002 (.05)	-.06 (.05)	-.03 (.08)
Hostility (H3)	1.38 (.05)**	.13 (.07)†	-.10 (.08)	-.11 (.13)
Autocracy	1.39 (.05)**	-.05 (.07)	.02 (.08)	-.05 (.12)
Constructive	4.38 (.07)**	-.09 (.12)	-.10 (.12)	.08 (.19)
Indirect tactic use (H2)	1.45 (.03)**	.13 (.04)**	.08 (.04)†	.04 (.07)
Manipulation/supplication	1.31 (.04)**	.17 (.06)*	.05 (.06)	-.02 (.10)
Soft positive	1.59 (.04)**	.08 (.06)	.10 (.06)	.11 (.10)
Affective outcomes				
Negativity (H3a)	-.03 (.05)	.09 (.07)	.002 (.07)	-.16 (.12)
Anger (H3b)	-.08 (.07)	.18 (.10)†	-.01 (.10)	-.45 (.18)*
Coded anger	2.24 (.07)**	.20 (.11)†	-.07 (.11)	-.40 (.19)*
SR anger	1.39 (.05)**	.06 (.08)	.01 (.08)	-.18 (.12)
Anxiety (H3c)	.01 (.06)	-.03 (09)	-.05 (.09)	.06 (.14)
Coded anxiety	3.08 (.05)**	.01 (.09)	-.03 (.09)	.06 (.13)
SR anxiety	2.06 (.07)**	-.04 (.11)	-.05 (.11)	.08 (.18)
Coded sadness	2.06 (.05)**	.04 (.08)	.02 (.08)	.01 (.14)
SR sadness	1.52 (.06)**	.13 (.09)	.05 (.09)	-.06 (.14)
Emotional suppression (H4)	.02 (.06)	-.12 (.09)	.01 (.09)	.12 (.14)
Coded suppression	3.56 (.05)**	-.01 (.08)	.00 (.08)	-.05 (.12)
SR suppression	2.27 (.08)**	-.22 (.12)†	.02 (.12)	.23 (.18)
Cognitive outcomes				
Empathic accuracy (H5a)	.61 (.05)**	-.00 (.07)	.06 (.07)	-.03 (.13)
Empathic accuracy- anger	.48 (.06)**	-.01 (.08)	.02 (.08)	-.09 (.14)
Empathic accuracy-sadness	.54 (.06)**	-.00 (.09)	.10 (.09)	-.03 (.15)
Empathic accuracy- anxiety	.80 (.06)**	-.00 (.09)	.06 (.09)	.03 (.15)
Careful speech (H5b)	3.00 (.07)**	-.20 (.11)†	-.23 (.11)*	.03 (.17)
Physiological outcomes				
Change in GSR (H6)	4.00 (.29)**	.29 (.44)	-.41 (.44)	-.70 (.68)
Baseline GSR	11.80 (.42)**	.38 (.65)	1.20 (.65)†	-.20 (.97)
Conflict GSR	15.72 (.41)**	.91 (.66)	1.12 (.66)†	-.73 (1.03)
Change in heart rate (H7)	4.65 (.43)**	.74 (.69)	1.04 (.69)	.44 (1.07)
Baseline heart rate	75.53 (.82)**	2.11 (1.30)	-1.49 (1.30)	-1.34 (1.97)
Conflict heart rate	80.22 (.85)**	2.34 (1.31)†	-.39 (1.31)	-1.05 (2.19)

† *p<.10 *p<.05 **p<.01*

Table 5　　　*Moderating effects of commitment on behavioral and emotional outcomes*

	Indirect strategy use	Direct strategy use	Hostility	Negativity	Anger	Anxiety	Emotional suppression
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	1.45 (.03)**	2.39 (.03)**	1.39 (.05)**	-.02 (.05)	-.06 (.07)	.02 (.06)	.03 (.06)
Actor power (APower)	.13 (.05)**	.00 (.05)	.14 (.08)	.08 (.8)	.15 (.11)	-.00 (.09)	-.15 (.09)
Partner power (PPower)	.08 (.05)	-.04 (.05)	-.08 (.08)	-.02 (.08)	-.05 (.11)	-.05 (.10)	-.03 (.09)
Actor commitment (ACom)	.07 (.04)	-.01 (.04)	-.14 (.06)*	.03 (.06)	-.01 (.08)	-.03 (.08)	-.09 (.07)
Partner commitment (PCom)	-.09 (.04)*	-.00 (.04)	-.05 (.06)	-.19 (.06)**	-.19 (.08)*	-.18 (.08)*	-.23 (.07)**
APower*PPower	.07 (.07)	-.03 (.08)	-.10 (.13)	-.11 (.12)	-.38 (.18)*	.11 (.14)	.15 (.14)
APower*ACom	.05 (.05)	.04 (.06)	.09 (.09)	-.03 (.09)	.03 (.12)	-.01 (.12)	.02 (.11)
APower*PCom	.06 (.05)	-.03 (.06)	-.04 (.09)	.01 (.08)	-.08 (.11)	.12 (.11)	-.07 (.10)
PPower*ACom	.02 (.05)	.10 (.07)	.06 (.09)	-.15 (.08)†	-.16 (.11)	-.10 (.11)	-.07 (.10)
PPower*PCom	.05 (.05)	.03 (.07)	-.10 (.09)	.04 (.09)	-.00 (.12)	.07 (.12)	.07 (.11)
APower*PPower*ACom	.09 (.09)	-.04 (.12)	-.24 (.15)	.09 (.14)	.08 (.17)	.00 (.21)	.11 (.18)
APower*PPower*PCom	-.27 (.11)*	.00 (.14)	.25 (.17)	.04 (.14)	.08 (.17)	.02 (.21)	-.30 (.18)

*†p<.10 *p<.05 **p<.01*

Table 6   *Moderating effects of commitment on cognitive and physiological outcomes*

	Careful speech	Empathic accuracy	Change in GSR	Change in heart rate
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	3.00 (.07)**	.62 (.05)	4.00 (.29)	4.70 (.44)
Actor power (APower)	-.29 (.12)*	-.05 (.07)	.14 (.50)	.79 (.77)
Partner power (PPower)	-.33 (.12)**	.00 (.07)	-.54 (.50)	1.11 (.76)
Actor commitment (ACom)	-.07 (.09)	-.11 (.05)*	-.05 (.41)	-.01 (.66)
Partner commitment (PCom)	-.11 (.09)	-.06 (.05)	.18 (.41)	-.69 (.66)
APower*PPower	-.02 (.17)	.06 (.12)	-.60 (.71)	.71 (1.11)
APower*ACom	-.06 (.14)	.12 (.07)	-.16 (.55)	.41 (.88)
APower*PCom	-.16 (.13)	-.14 (.07)*	-.37 (.55)	-.41 (.88)
PPower*ACom	-.25 (.13)	-.18 (.07)*	-.33 (.55)	1.04 (.94)
PPower*PCom	-.12 (.14)	.08 (.07)	-.06 (.55)	.62 (.89)
APower*PPower*ACom	-.14 (.24)	.06 (.09)	.26 (.99)	.36 (1.96)
APower*PPower*PCom	-.01 (.24)	.08 (.09)	.37 (.99)	-2.59 (1.64)

*†p<.10 *p<.05 **p<.01*

Table 7　　*Moderating effects of closeness on behavioral and emotional outcomes*

	Indirect strategy use	Direct strategy use	Hostility	Negativity	Anger	Anxiety	Emotional suppression
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	1.45 (.03)**	2.39 (.03)**	1.38 (.05)**	-.03 (.05)	-.07 (.07)	.00 (.05)	.01 (.06)
Actor power (APower)	.13 (.04)	-.00 (.05)	.14 (.08)	.08 (.08)	.15 (.11)	-.01 (.09)	-.13 (.09)
Partner power (PPower)	.07 (.04)	-.06 (.05)	-.11 (.08)	-.00 (.08)	-.03 (.11)	-.03 (.09)	-.01 (.09)
Actor closeness (AClose)	.03 (.02)	.04 (.02)	-.02 (.03)	.02 (.03)	.03 (.04)	-.00 (.04)	-.01 (.04)
Partner closeness (PClose)	-.06 (.02)**	.04 (.02)	-.02 (.03)	-.00 (.03)	-.01 (.04)	.00 (.04)	-.03 (.04)
APower*PPower	.06 (.07)	-.03 (.08)	-.17 (.13)	-.18 (.12)	-.47 (.18)*	.04 (.14)	.09 (.14)
APower*AClose	.06 (.04)	.09 (.05)	.13 (.07)	-.03 (.06)	.02 (.09)	-.10 (.09)	-.10 (.07)
APower*PClose	.01 (.04)	-.07 (.05)	-.08 (.06)	-.02 (.06)	-.08 (.08)	.06 (.08)	.02 (.07)
PPower*AClose	-.02 (.04)	.01 (.05)	-.04 (.06)	-.05 (.06)	-.10 (.09)	.02 (.08)	-.08 (.07)
PPower*PClose	.11 (.04)**	.03 (.05)	.06 (.06)	.02 (.06)	.04 (.09)	-.07 (.09)	.02 (.08)
APower*PPower*AClose	-.00 (.05)	-.01 (.07)	-.14 (.09)	.25 (.09)**	.22 (.10)*	.26 (.12)*	.20 (.10)†
APower*PPower*PClose	-.08 (.07)	-.00 (.08)	.17 (.11)	-.10 (.08)	-.07 (.10)	-.07 (.12)	-.09 (.10)

*†p<.10 *p<.05 **p<.01*

Table 8   *Moderating effects of closeness on cognitive and physiological outcomes*

	Careful speech	Empathic accuracy	Change in GSR	Change in heart rate
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	2.99 (.07)**	.59 (.05)**	4.00 (.29)**	4.64 (.44)**
Actor power (APower)	-.27 (.11)*	-.04 (.07)	.16 (.46)	.48 (.74)
Partner power (PPower)	-.27 (.11)*	.03 (.07)	-.36 (.46)	1.04 (.73)
Actor closeness(AClose)	.02 (.05)	.01 (.02)	.16 (.21)	-.30 (.35)
Partner closeness (PClose)	-.03 (.05)	.04 (.02)	-.10 (.21)	-.24 (.35)
APower*PPower	-.01 (.17)	-.09 (.12)	-.75 (.69)	.13 (1.16)
APower*AClose	.09 (.10)	-.07 (.05)	.49 (.40)	.25 (.69)
APower*PClose	-.26 (.10)**	-.14 (.05)	-.66 (.39)†	-.67 (.65)
PPower*AClose	-.02 (.09)	-.11 (.05)	.36 (.39)	.13 (.64)
PPower*PClose	-.20 (.10)*	-.12 (.05)	-.63 (.40)	.19 (.66)
APower*PPower*AClose	.13 (.13)	.03 (.05)	.80 (.52)	.80 (1.5)
APower*PPower*PClose	-.13 (.13)	.20 (.05)**	-.29 (.52)	-1.07 (.95)

*†p<.10 *p<.05 **p<.01*

Table 9   *Moderating effects of partner responsiveness on behavioral and emotional outcomes*

	Indirect strategy use	Direct strategy use	Hostility	Negativity	Anger	Anxiety	Emotional suppression
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	1.44 (.03)**	2.38 (.03)**	1.40 (.05)**	-.02 (.05)	-.04 (.07)	-.01 (.06)	.00 (.05)
Actor power (APower)	.15 (.05)**	-.01 (.05)	.09 (.08)	.05 (.08)	.12 (.10)	-.05 (.10)	-.14 (.09)
Partner power (PPower)	.08 (.04)	-.04 (.05)	-.11 (.08)	-.04 (.08)	-.08 (.10)	-.09 (.10)	-.02 (.09)
Actor partner responsiveness (APR)	.02 (.03)	-.06 (.04)	-.17 (.05)**	-.18 (.05)	-.21 (.07)**	.10 (.07)	-.05 (.06)
Partner partner responsiveness (PPR)	.00 (.03)	-.01 (.04)	-.16 (.05)**	-.17 (.13)**	-.24 (.07)**	-.15 (.07)*	-.18 (.06)**
APower*PPower	.04 (.08)	.07 (.09)	.01 (14)	-.17 (.13)	-.33 (.18)	.02 (.16)	.10 (.15)
APower*APR	.01 (.05)	.02 (.06)	-.05 (.09)	-.13 (.09)	-.16 (.11)	-.10 (.11)	-.08 (.10)
APower*PPR	-.02 (.06	.03 (.07)	.00 (.10)	.16 (.09)	.17 (.13)	.08 (.13)	.16 (.12)
PPower*APR	-.05 (.07)	.09 (.08)	.16 (.11)	.14 (.10)	.14 (.13)	.18 (.13)	.12 (.12)
PPower*PPR	-.02 (.06)	-.02 (.06)	-.04 (.09)	.06 (.09)	-.01 (.11)	.02 (.11)	-.18 (.10)
APower*PPower*APR	.04 (.11)	.16 (.13)	.08 (.18)	.17 (.17)	.17 (.22)	.18 (.22)	-.11 (.20)
APower*PPower*PPR	.01 (.11)	.07 (.12)	-.13 (.17)	-.32 (.17)†	-.21 (.22)	-.22 (.22)	.13 (.20)

*†p<.10 *p<.05 **p<.01*

Table 10   *Moderating effects of partner responsiveness on cognitive and physiological outcomes*

	Careful speech	**Empathic accuracy**	**Change in GSR**	**Change in heart rate**
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	2.97 (.07)**	.61 (.05)**	4.04 (.30)**	4.60 (.44)**
Actor power (APower)	-.25 (.11)*	-.01 (.08)	.29 (.49)	1.03 (.75)
Partner power (PPower)	-.24 (.11)*	.05 (.08)	-.29 (.49)	1.52 (.75)*
Actor partner responsiveness (APR)	.21 (.07)**	-.07 (.04)	.51 (.34)	-.71 (.54)
Partner partner responsiveness (PPR)	-.04 (.08)	-.03 (.04)	-.01 (.34)	1.10 (.54)*
APower*PPower	-.02 (.18)	-.09 (.14)	-.54 (.79)	.49 (1.25)
APower*APR	-.26 (.13)	.03 (.07)	.01 (.58)	-.53 (.92)
APower*PPR	-.08 (.15)	.04 (.08)	-.24 (.67)	-.33 (1.07)
PPower*APR	.26 (.15)	.21 (.08)*	-.70 (.67)	-1.25 (1.07)
PPower*PPR	-.25 (.13) [†]	-.10 (.07)	.34 (.58)	.11 (.92)
APower*PPower*APR	.21 (.25)	-.15 (.14)	-.27 (1.19)	-.74 (1.92)
APower*PPower*PPR	.13 (.25)	-.11 (.14)	.36 (1.19)	1.28 (1.97)

*†p<.10 *p<.05 **p<.01*

Table 11. *Moderating effects of exchange orientation on behavioral and emotional outcomes*

	Indirect strategy use	Direct strategy use	Hostility	Negativity	Anger	Anxiety	Emotional suppression
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	1.45 (.03)**	2.38 (.03)**	1.38 (.05)**	-.03 (.05)	-.08 (.07)	.02 (.06)	.03 (.06)
Actor power (APower)	.12 (.04)**	.00 (.05)	.14 (.08)	.08 (.07)	.16 (.10)	-.02 (.09)	-.11 (.09)
Partner power (PPower)	.07 (.04)	-.06 (.05)	-.10 (.08)	-.00 (.07)	-.03 (.10)	-.04 (.09)	.03 (.09)
Actor exchange orient. (AExchange)	-.04 (.05)	-.00 (.06)	.04 (.08)	.13 (.08)	.12 (.10)	.15 (.11)	.10 (.10)
Partner exchange orient. (PExchange)	.03 (.05)	.02 (.06)	.05 (.08)	.07 (.08)	.07 (.10)	.11 (.11)	.12 (.10)
APower*PPower	.05 (.08)	-.03 (.09)	-.18 (.14)	-.24 (.13)	-.61 (.18)**	.05 (.15)	.13 (.15)
APower*AExchange	-.06 (.10)	.12 (.11)	.09 (.15)	-.10 (.15)	.16 (.20)	-.13 (.20)	-.14 (.19)
APower*PExchange	.03 (.09)	-.09 (.11)	.05 (.15)	.20 (.14)	.38 (.19)*	-.12 (.19)	-.12 (.17)
PPower*AExchange	-.03 (.09)	.12 (.11)	.32 (.15)*	.30 (.14)*	.51 (.19)**	.10 (.19)	-.07 (.17)
PPower*PExchange	-.13 (.10)	-.11 (.12)	-.07 (.16)	-.03 (.15)	.06 (.20)	-.05 (.20)	-.10 (.19)
APower*PPower*AExchange	-.04 (.15)	.03 (.18)	-.28 (.24)	-.34 (.21)	-.49 (.28)	-.16 (.29)	-.32 (.26)
APower*PPower*PExchange	.06 (.14)	-.02 (.17)	-.07 (.23)	-.00 (.21)	-.18 (.28)	.12 (.29)	.30 (.26)

*†p<.10 *p<.05 **p<.01*

Table 12. *Moderating effects of exchange orientation on cognitive and physiological outcomes*

	Careful speech	Empathic accuracy	Change in GSR	Change in heart rate
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	3.04 (.07)**	.60 (.05)**	3.99 (.30)**	4.74 (.45)**
Actor power (APower)	-.24 (.11)*	.00 (.08)	.26 (.46)	.69 (.72)
Partner power (PPower)	-.24 (.11)*	.07 (.08)	-.40 (.46)	1.11 (.72)
Actor exchange orient. (AExchange)	.18 (.12)	-.01 (.07)	.05 (.53)	.01 (.86)
Partner exchange orient. (PExchange)	.30 (.12)*	.05 (.07)	.21 (.53)	.05 (.86)
APower*PPower	.13 (.19)	-.10 (.14)	-.86 (.77)	.83 (1.21)
APower*AExchange	-.26 (.23)	-.00 (.13)	-.53 (.99)	-1.80 (1.64)
APower*PExchange	-.05 (.22)	.14 (.13)	.36 (.91)	-.43 (1.52)
PPower*AExchange	.05 (.23)	.21 (.13)	.34 (.91)	-.53 (1.47)
PPower*PExchange	.28 (.23)	.04 (.13)	.44 (.99)	-.98 (1.60)
APower*PPower*AExchange	.09 (.33)	-.13 (.18)	-1.16 (1.36)	.06 (2.37)
APower*PPower*PExchange	.45 (.33)	-.14 (.18)	.54 (1.36)	2.47 (2.44)

*†p<.10 *p<.05 **p<.01*

Table 13   *Moderating effects of hostility on behavioral and emotional outcomes*

	Indirect strategy use	Direct strategy use	Hostility	Negativity	Anger	Anxiety	Emotional suppression
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	1.44 (.03)**	—	—	-.01 (.05)	-.07 (.04)	.03 (.06)	.02 (.06)
Actor power (APower)	.11(.05)**	—	—	.07 (.08)	.07 (.07)	-.00 (.10)	-.14 (.10)
Partner power (PPower)	08 (.05)	—	—	.02 (.08)	.02 (.07)	-.02 (.10)	-.00 (.10)
Actor hostility (AHostility)	.18 (.05)**	—	—	.19 (.07)**	.87 (.07)**	-.19 (.10)	-.12 (.10)
Partner hostility (PHostility)	-.10 (.05)*	—	—	.21 (.07)**	.21 (.07)**	.18 (.10)	.12 (.10)
APower*PPower	.19 (.08)*	—	—	-.25 (.14)	-.35 (.14)*	-.14 (.18)	.10 (.19)
APower*AHostility	.20 (.08)*	—	—	-.37 (.14)**	.27 (.13)*	-.30 (.19)	.02 (.18)
APower*PHostility	-0.9 (.07)	—	—	-.05 (.12)	-.28 (.12)*	.11 (.16)	.03 (.16)
PPower*AHostility	.02 (.07)	—	—	.02 (.12)	-.27 (.12)*	.26 (.16)	.17 (.16)
PPower*PHostility	.23 (.08)**	—	—	-.20 (.14)	-.18 (.13)	-.24 (.19)	.08 (.18)
APower*PPower*AHostility	.35 (.19)	—	—	-.72 (.30)*	-.36 (.30)	-.79 (.42)	-.29 (.40)
APower*PPower*PHostility	.00 (.19)	—	—	.17 (.30)	-.10 (.30)	.38 (.42)	.19 (.40)

*†p<.10 *p<.05 **p<.01*

Table 14   *Moderating effects of hostility on cognitive and physiological outcomes*

	Careful speech	**Empathic accuracy**	**Change in GSR**	**Change in heart rate**
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
Intercept	3.01 (.07)**	.62 (.05)**	3.99 (.31)**	4.56 (.46)**
Actor power (APower)	-.16 (.12)	.03 (.08)	.42 (.50)	.59 (.78)
Partner power (PPower)	-.20 (.12)	.08 (.08)	-.61 (.50)	1.05 (.78)
Actor hostility (AHostility)	-.16 (.12)	.13 (.06)*	.19 (.57)	.35 (.93)
Partner hostility (PHostility)	.12 (.12)	.08 (.06)	-.15 (.57)	-1.07 (.92)
APower*PPower	.20 (.22)	.08 (.16)	-1.01 (.92)	.83 (1.37)
APower*AHostility	.20 (.22)	-.05 (.13)	.16 (.88)	1.93 (1.41)
APower*PHostility	.13 (.19)	-.21 (.11)	.16 (.78)	1.81 (1.23)
PPower*AHostility	-.00 (.19)	-.14 (.13)	.88 (.78)	-.30 (1.24)
PPower*PHostility	.37 (.22)	-.14 (.11)	-1.24 (.88)	.69 (1.39)
APower*PPower*AHostility	-.22 (.49)	.23 (.27)	-.07 (2.03)	2.51 (3.27)
APower*PPower*PHostility	.88 (.49)	.07 (.27)	-3.79 (2.03)	-2.59 (3.25)

*†p<.10 *p<.05 **p<.01*

Figure 1. Actor power by partner power interaction predicting anger
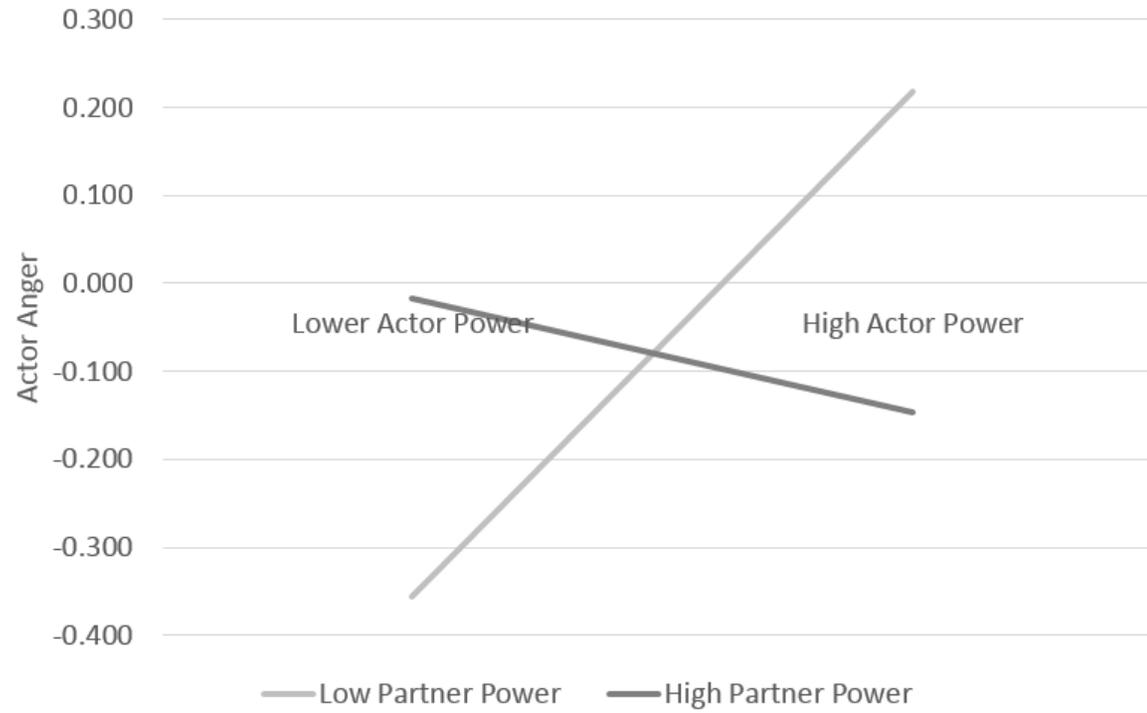
Figure 2. Commitment and power two-way interactions for cognitive outcomes
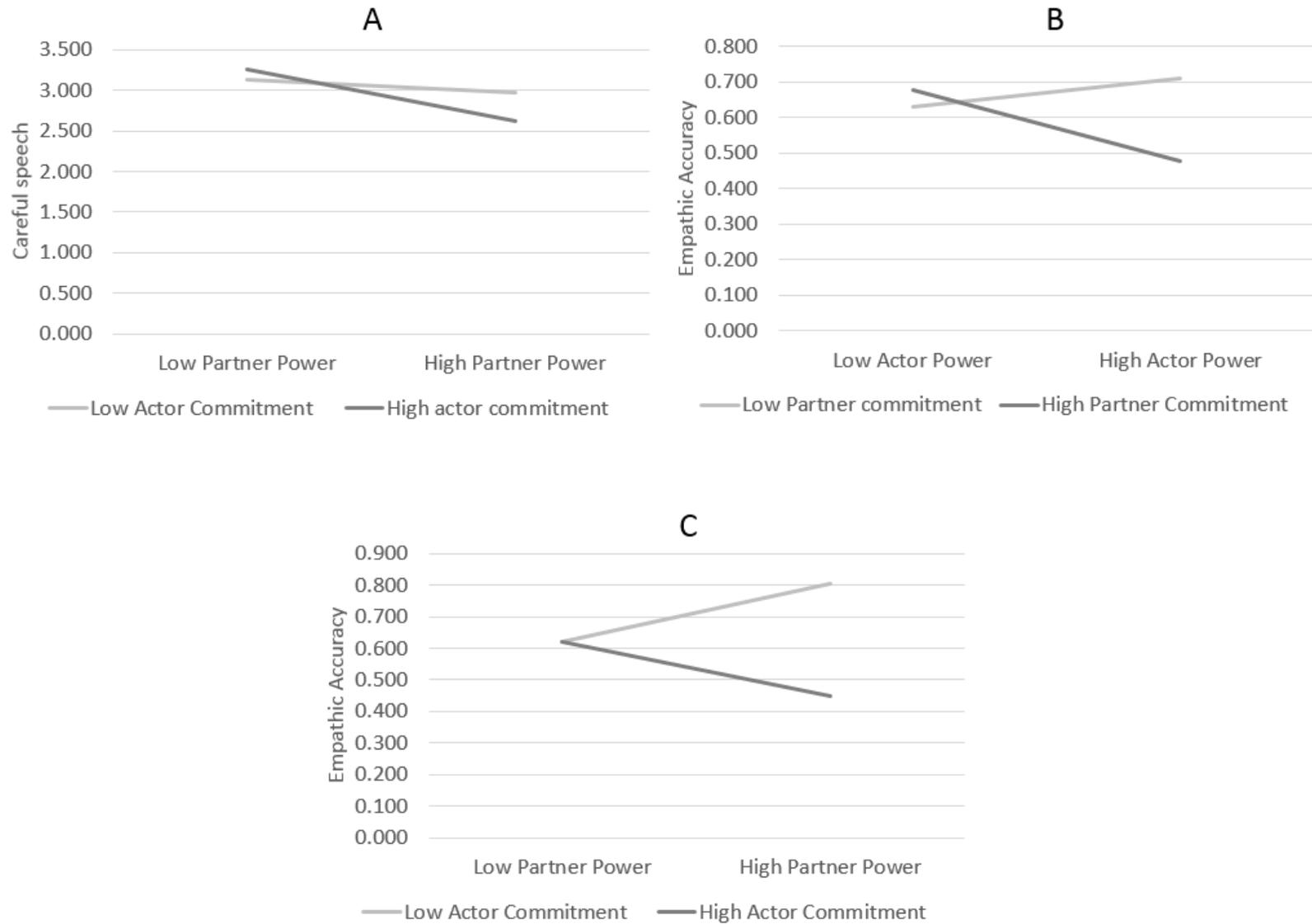
Figure 3. Commitment and power three-way interactions for indirect tactic use
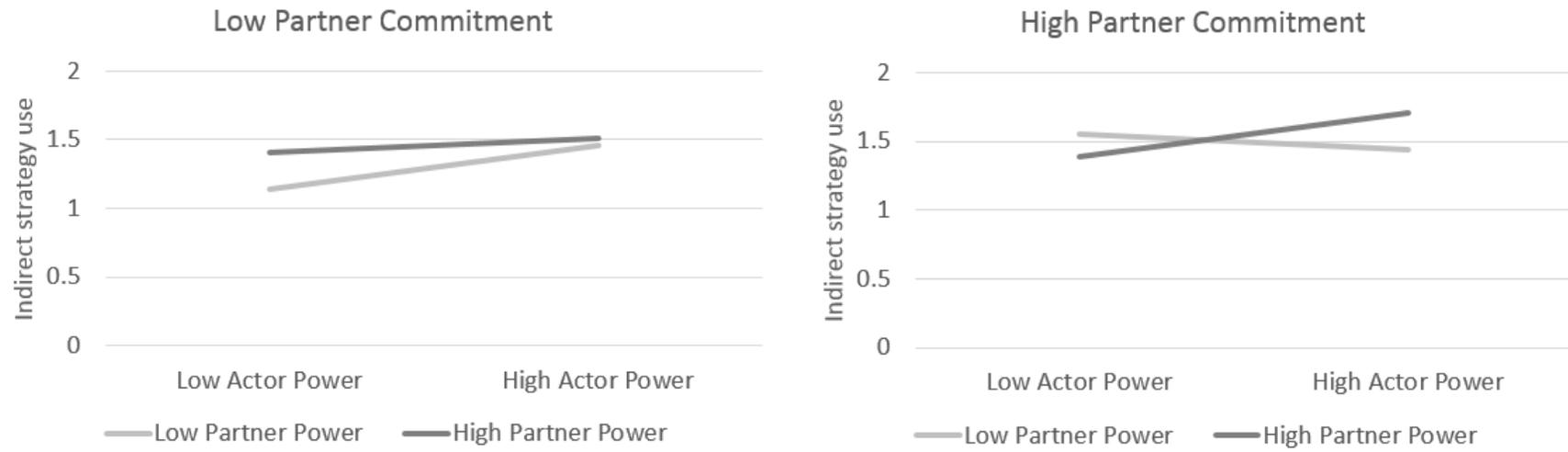
Figure 4. Closeness and power interaction effects on behavioral outcomes
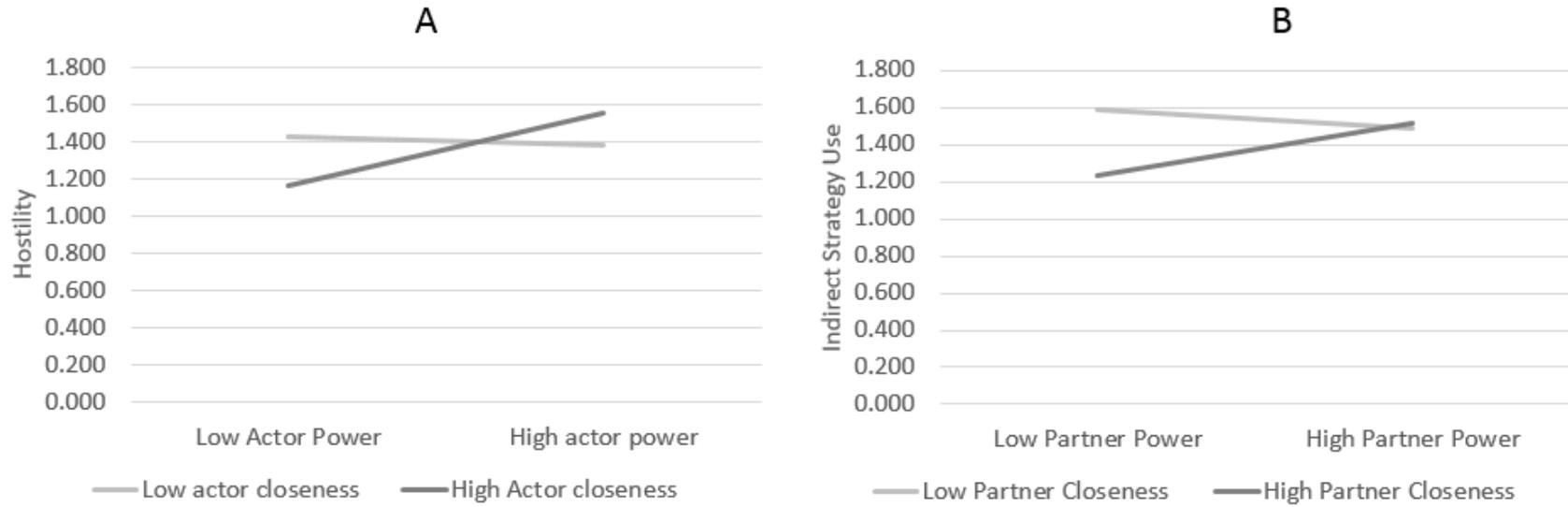
Figure 5. Closeness and power effects on cognitive and physiological outcomes
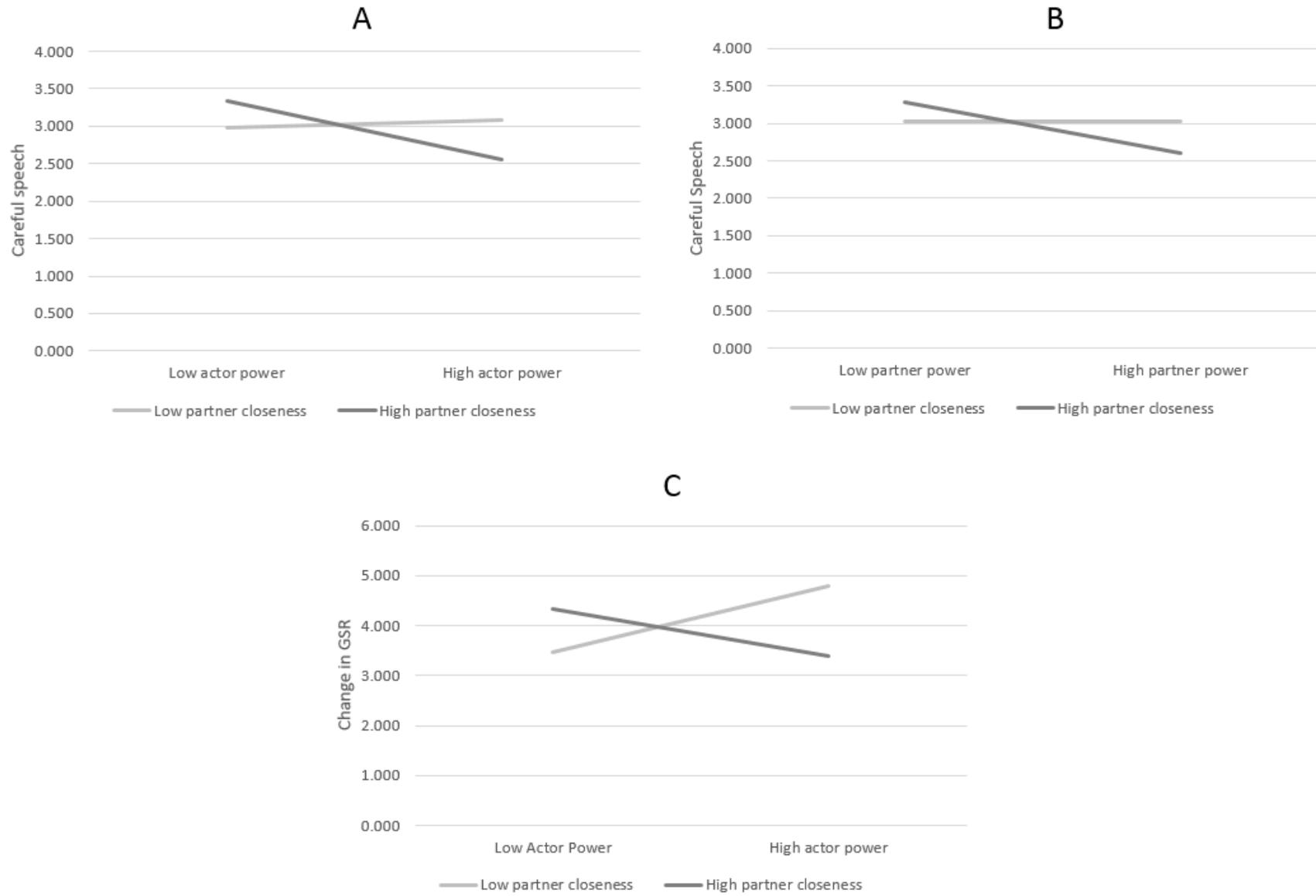
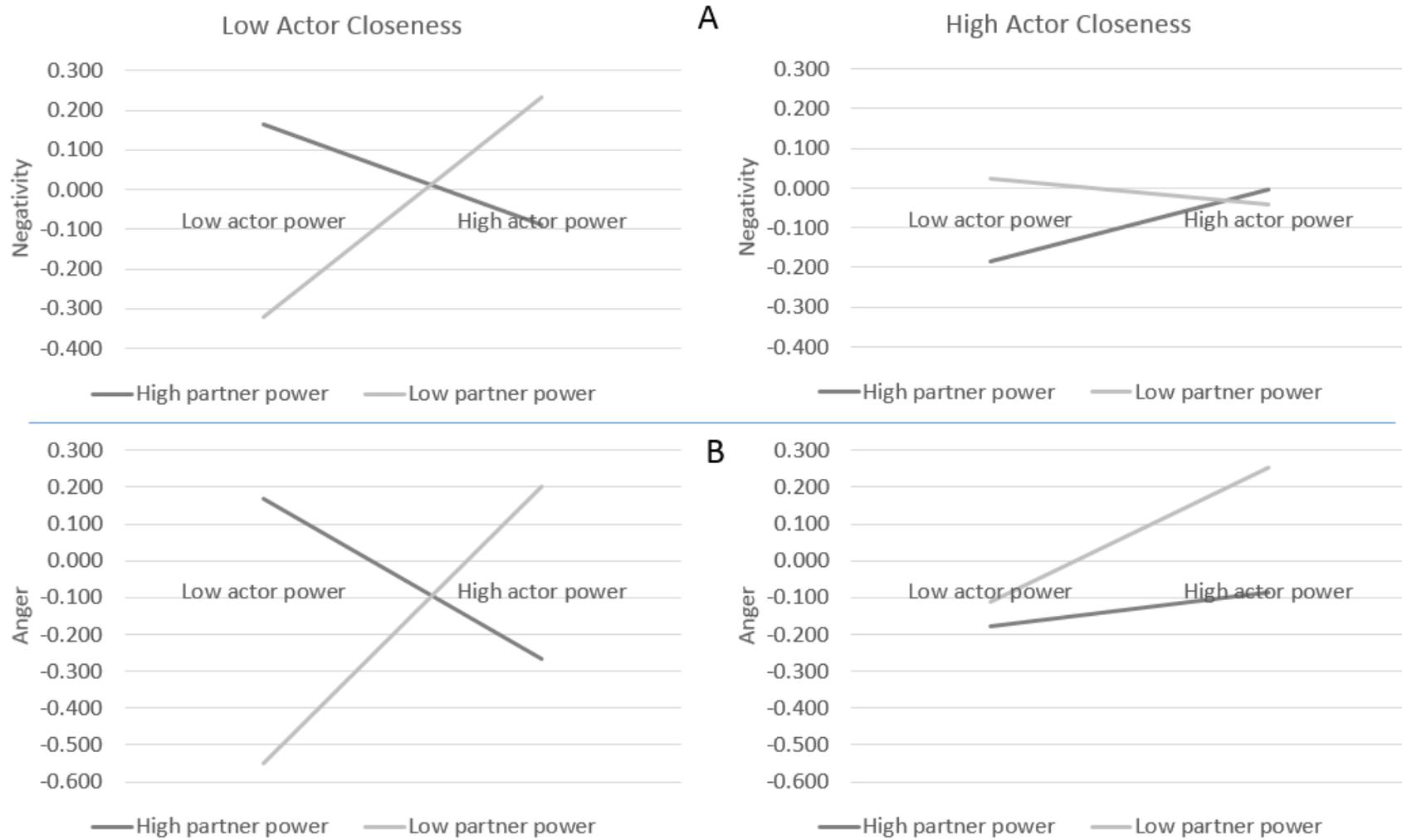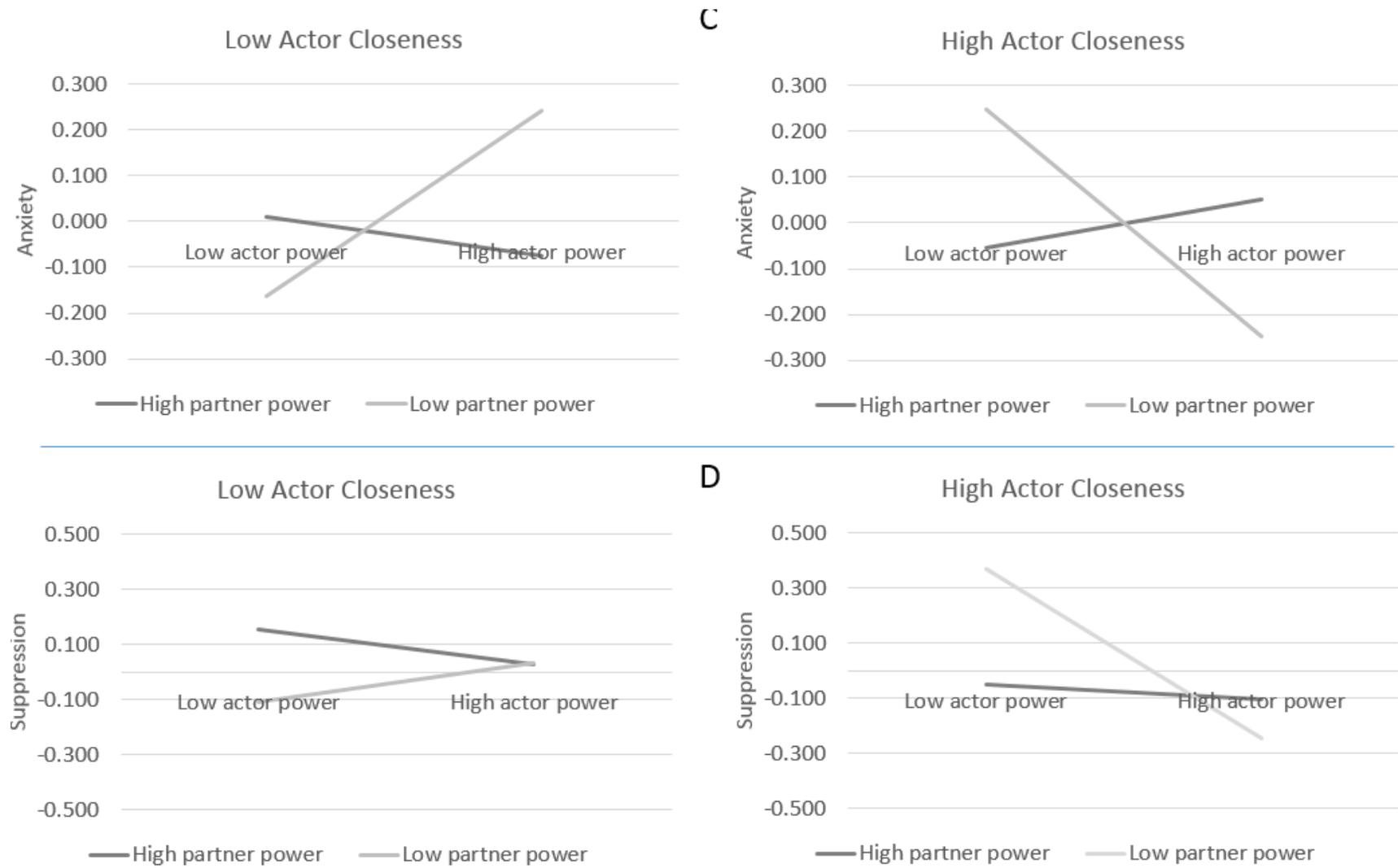Figure 6. Closeness and power effects on emotional outcomes

Figure 6. Closeness and power effects on emotional outcomes cont.

Figure 7. Closeness and power three-way interaction predicting empathic accuracy
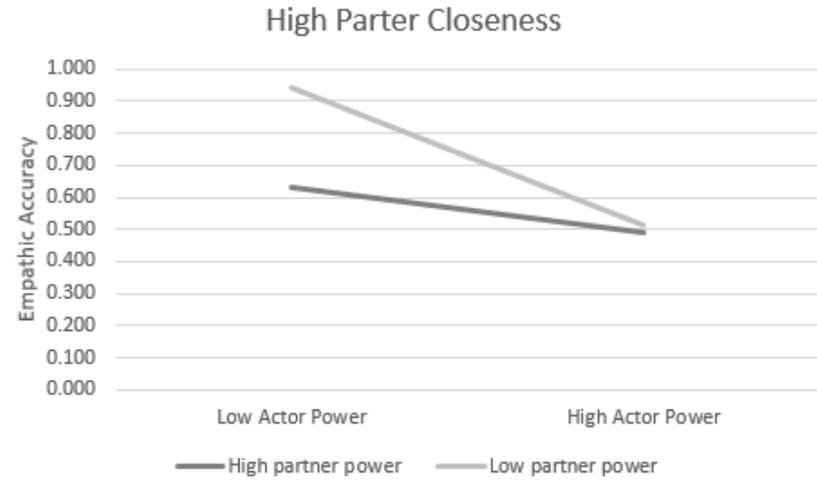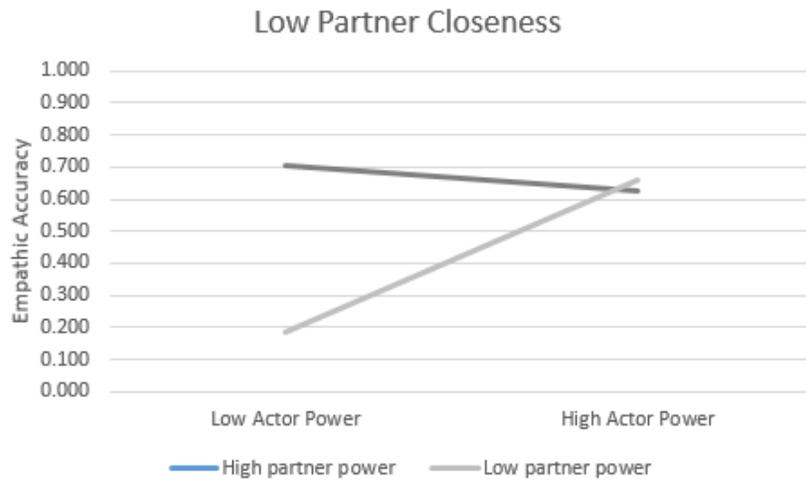
Figure 8. Partner responsiveness and power interaction effects
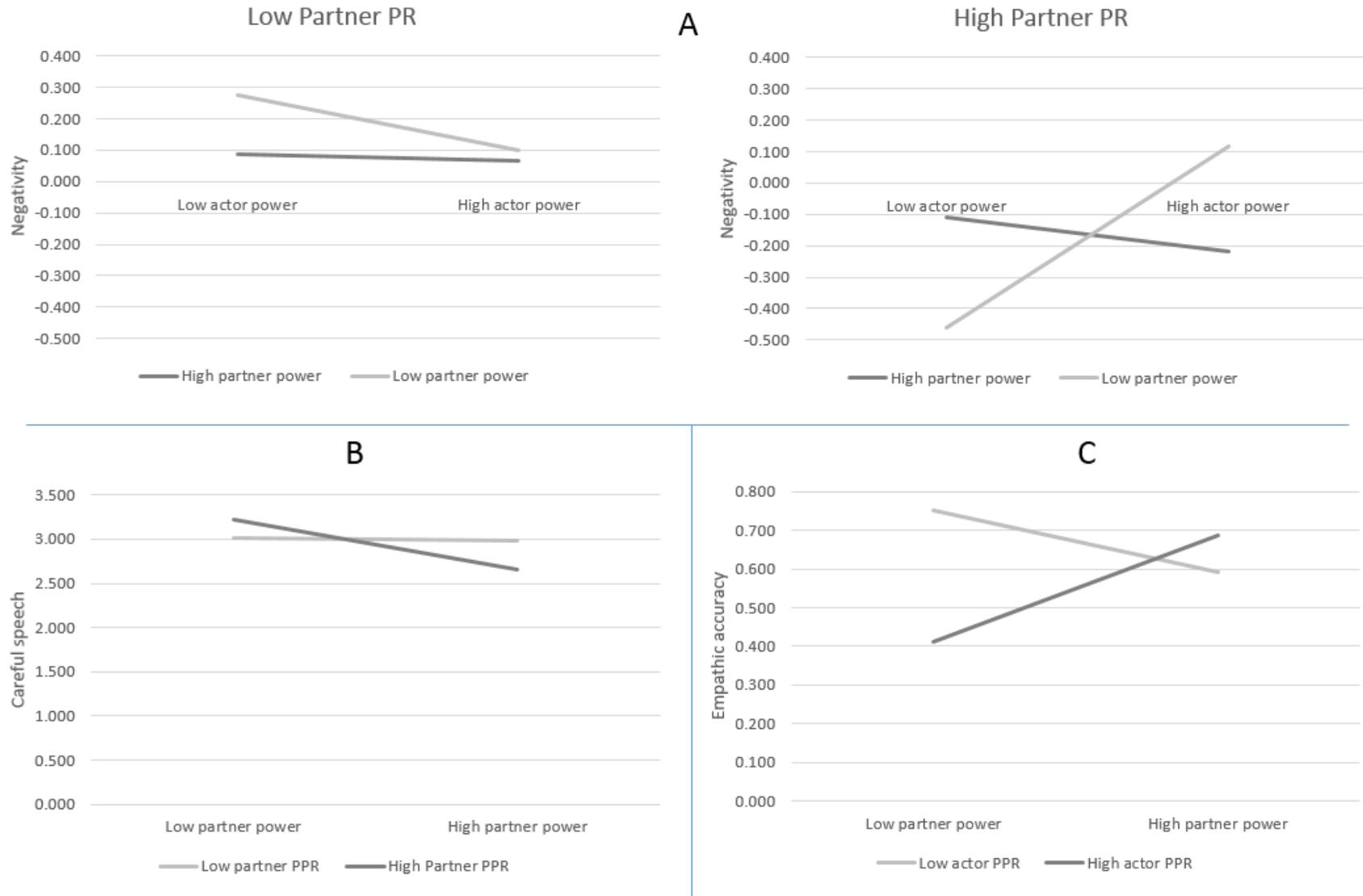
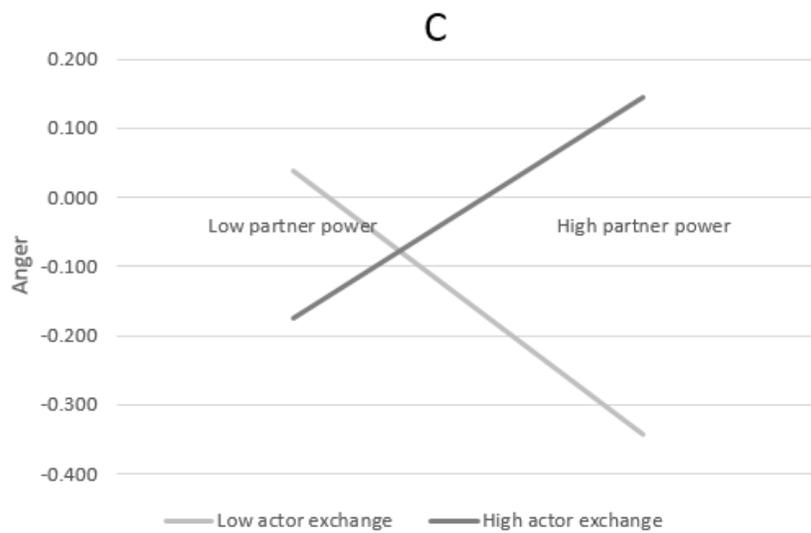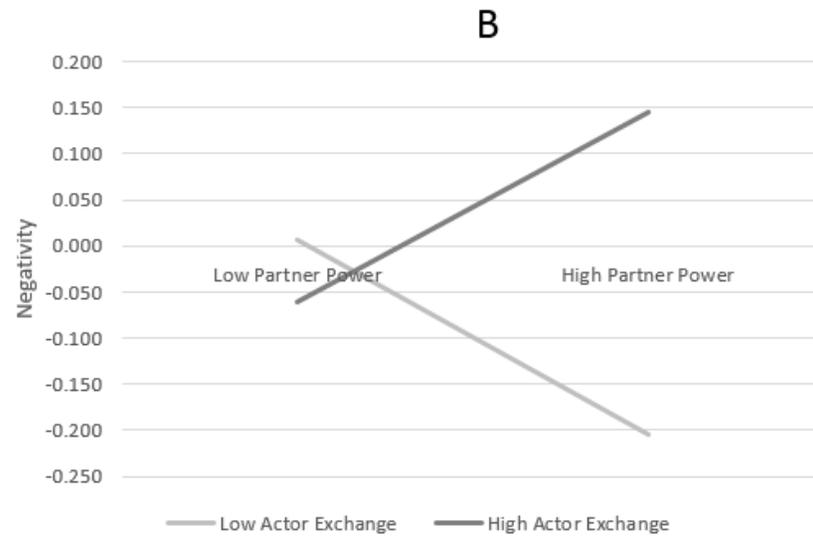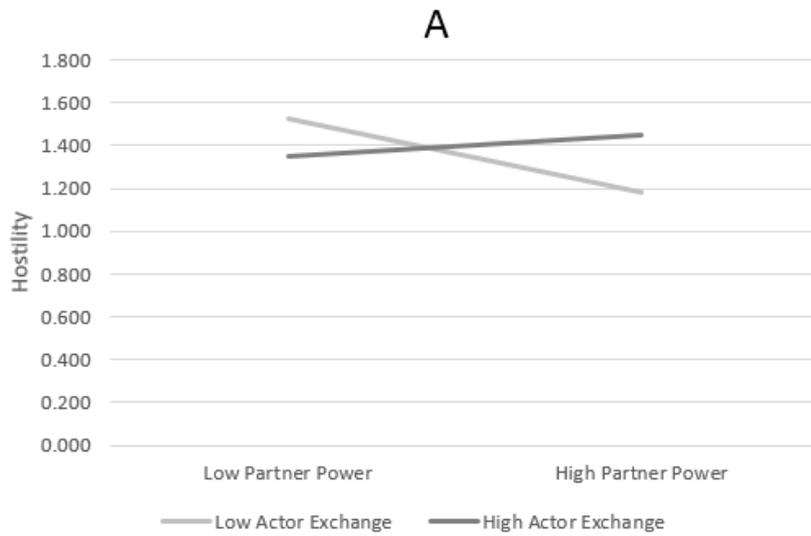Figure 9. Exchange orientation and power interaction effects
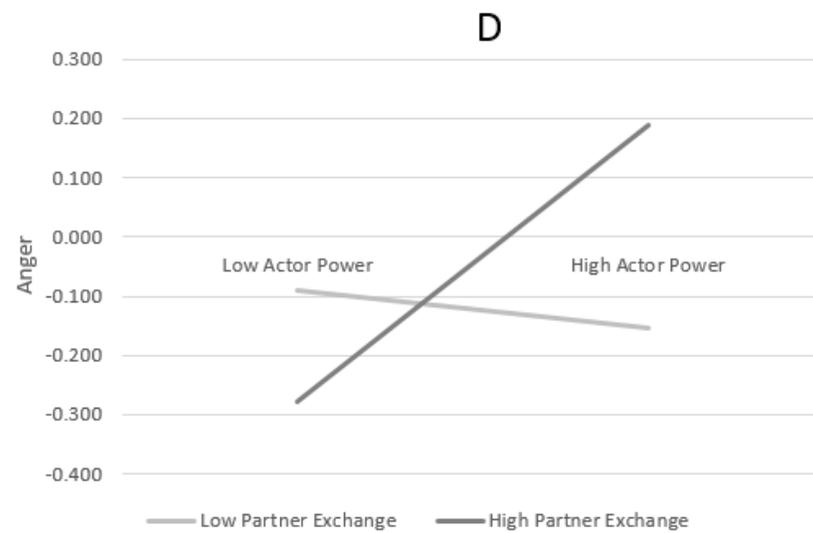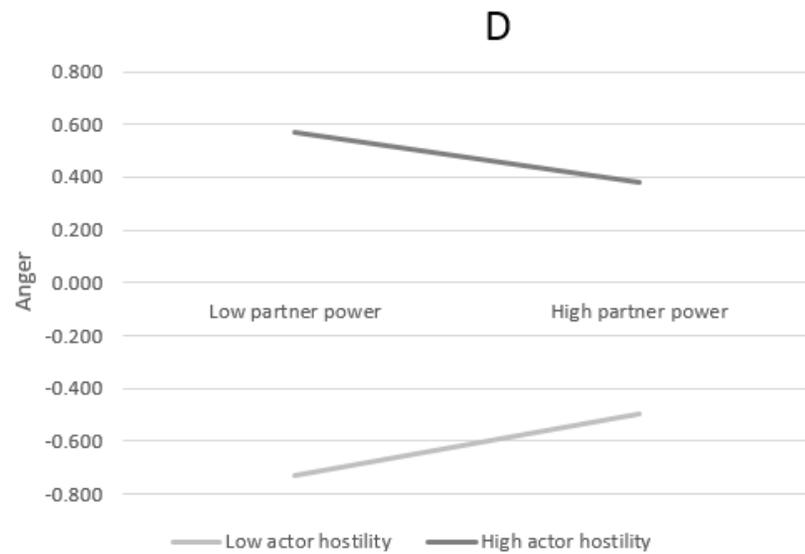
Figure 10. Hostility and power two-way interaction effects

A

Indirect strategy use

Low partner power — High partner power

—— Low partner hostility   —— High partner hostility

B

Anger

Low actor power   High actor power

—— Low actor hostility   —— High actor hostility

C

Anger

Low actor power   High actor power

—— Low partner hostility   —— High partner hostility

D

Anger

Low partner power   High partner power

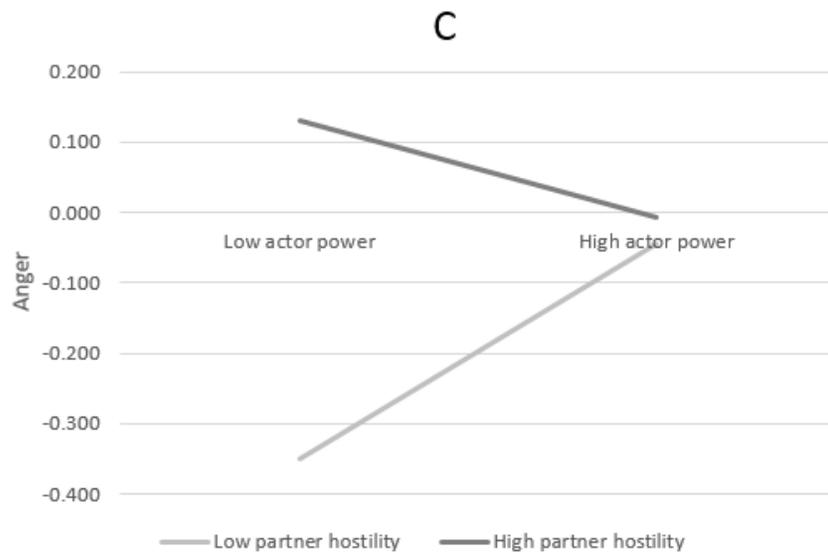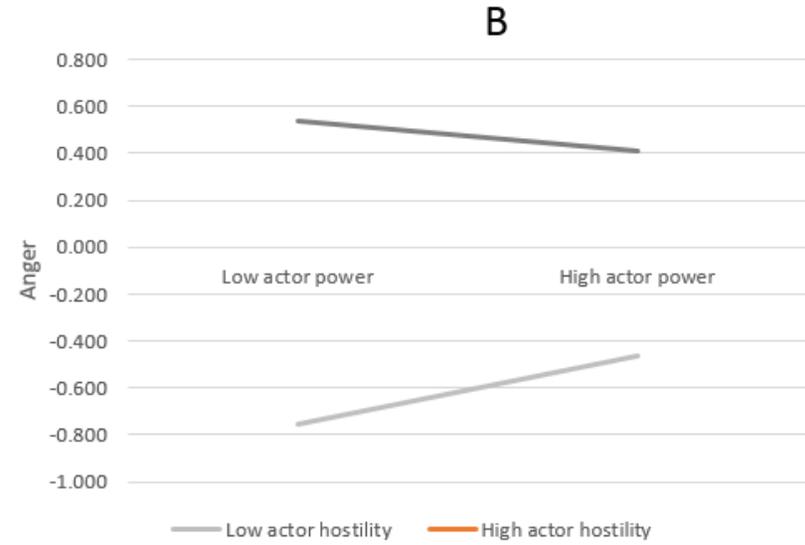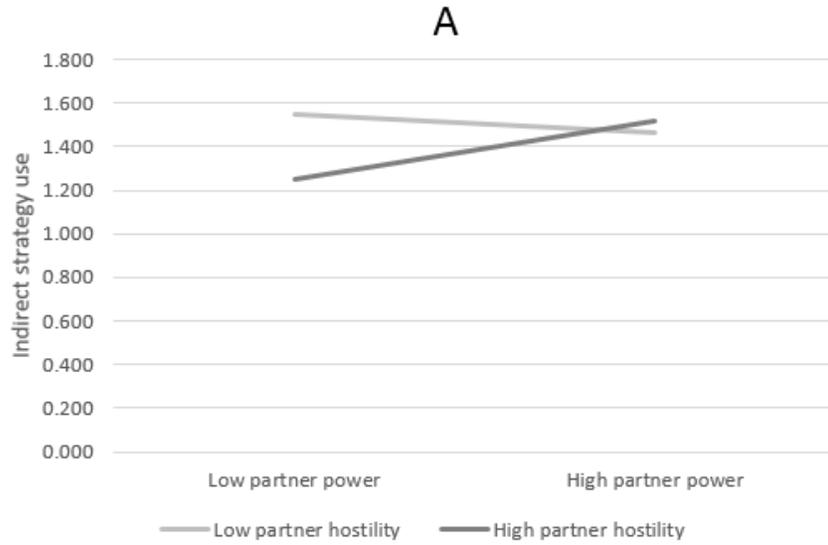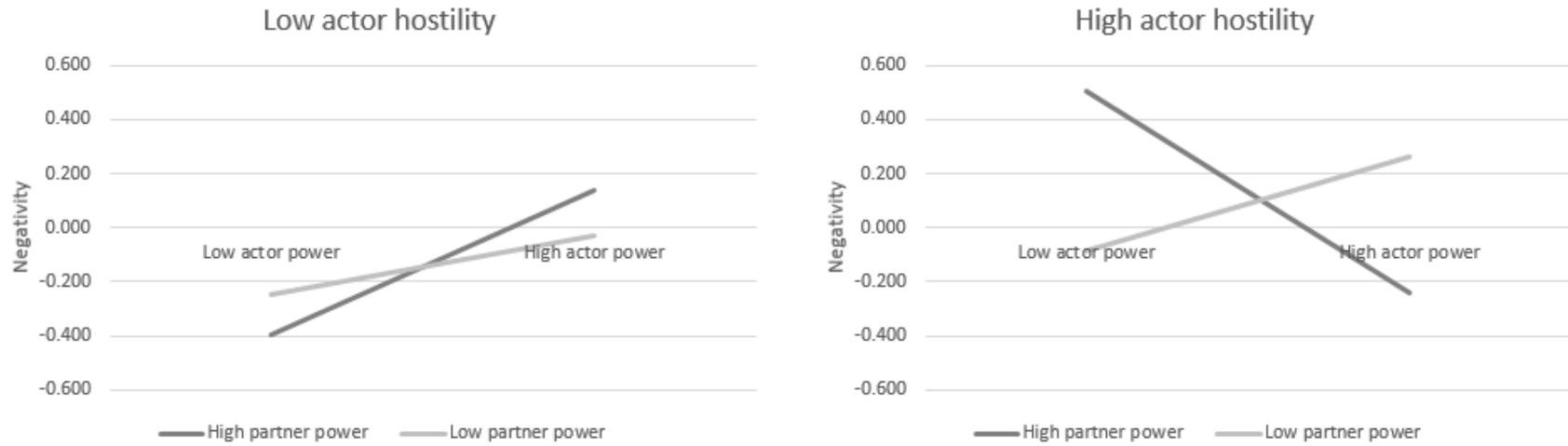—— Low actor hostility   —— High actor hostility

Figure 11. Hostility and power three-way interaction effect for negativity

Issues in Relationships:
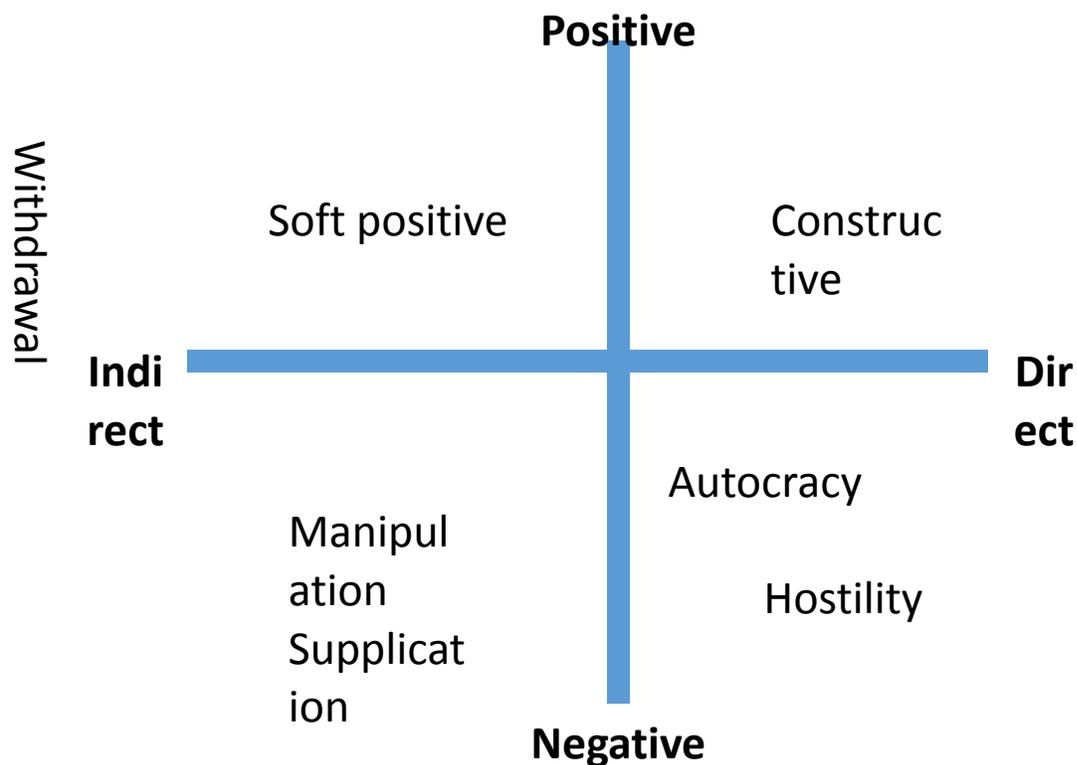# Influence Tactics/Conflict Behaviors
Codebook

Version 9.28.2015

Coding Overview

This set of codes concerns the behavior of partners in terms of how they attempt to influence one another and resolve the conflict during the discussion. These tactics can be conceptualized as falling along two dimensions:

Positive vs. Negative: Does the tactic express positive emotionality and constructive problem solving for the relationship, or does it express negative emotionality and destructive problem solving?

Direct vs. Indirect: Does the tactic directly address the problem and the partner, or is it more passive?

Positive

Soft positive   Construc tive

Withdrawal

Indi rect   **Dir ect**

Autocracy

Manipul ation   Hostility
Supplicat ion

Negative

Coding will be conducted separately for each partner. Thus, the interactions will be viewed once to code the female partner, and then a second time later to code the male partner. Coders will watch the entire interaction for context, and then watch it again in 30-second blocks, taking into account the frequency, intensity and duration of behaviors associated with each category within each 30-second segment of the interaction. At each 30-second interval, the software will stop the recording and the coder will provide a rating for each of the six tactics for the partner in the segment just reviewed. Remember to rate all tactics on the same scale—a three on one tactic should represent the same frequency/intensity/duration as a three on another, even if one tactic is more rare.

If needed, coders can take into account wider contextual information to determine the meaning of participant responses and presence of specific behaviors, such as the preceding and following interaction blocks. This can be especially valuable to distinguish the meaning of passive responses when there is low frequency of behavior within a specific segment.

Hostility (Negative-direct)

Hostility occurs when the agent of influence tries to put down their partner. They may claim greater knowledge or other authority on the issue to force the partner to agree, or be sarcastic or reject/deny the validity of the partner's arguments. They may try to change or control their partner using force including threats, criticism, insults, yelling, expressions of anger and irritation, blaming and ridiculing, or putting the partner down. Negative-direct strategies are used to *make* the person change or back off through intimidation or dominance. The individual may be rigid and inflexible, not considering their partners' point of view, refusing to discuss or listen until the partner agrees, and/or arguing or repeatedly outlining their own point of view until their partner changes his/her mind.

Behaviors to look for (consider frequency, intensity, and duration):
- How much the individual derogates (e.g., criticize, insult, belittle, ridicule and make fun of in a hurtful way) his/her partner when he/she disagrees with him/her.
- How much the individual indicates there would be negative consequences for his/her partner (e.g., threaten punishment, something desired will be withheld) if he/she does not conform to desired change.
- How much the individual displays aggression (e.g., anger, irritation, displeasure, frustration, yelling, cursing) when their partner fails to conform to his/her wishes.
- How much the individual insisted that their partner think, feel or behave in a certain way.
- How much the individual asserted/implied they knew more about the discussion topic.
- How much individual attempted to exert their superiority by trying to make their partner feel inferior and/or invalidate their partner's point of view (e.g., use sarcasm, or reject and invalidate partners' arguments).
- How much the individual took on a domineering stance (not listening to partners' arguments, interrupting partner, controlling the conversation).

1: The individual never uses hostility. You observe no instances of any of the behaviors described above.

2: The individual rarely uses hostility. He/She may seem slightly aggressive or sarcastic, but it's hard to tell.

3: The individual occasionally uses hostility. You see some flashes of aggression, putting the partner down, and/or domineering but they are not particularly long, frequent, and/or intense.

4: The individual frequently uses hostility. Throughout the segment, you frequently see the individual engaging in one or more of these behaviors.

5: The individual is engaging in intense hostility. The individual is engaging in one or more of these behaviors across the entire segment.

Autocracy (Negative-direct)

Autocracy occurs when the agent of influence tries place themselves above their partner. They may claim greater knowledge or other authority on the issue to force the partner to agree. The assertion of superiority may also be expressed by making the partner feel inferior, including tactics such as being condescending and patronizing. The individual may be rigid and inflexible, not considering their partners' point of view, refusing to discuss or listen until the partner agrees, and/or arguing or repeatedly outlining their own point of view until their partner changes his/her mind.

Behaviors to look for (consider frequency, intensity, and duration):
- How much the individual asserted/implied they knew more about the discussion topic.
- How much individual attempted to exert their superiority by trying to make their partner feel inferior (e.g., be patronizing or condescending).
- How much the individual took on a non-negotiative stance (being non-negotiative or inflexible about possible outcomes).

1: The individual never uses autocracy. You observe no instances of any of the behaviors described above.

2: The individual rarely uses autocracy. He/She may seem slightly condescending or non-negotiative, but it's hard to tell.

3: The individual occasionally uses autocracy. You see some flashes of condescending/patronizing/domineering, but they are not particularly long, frequent, and/or intense.

4: The individual frequently uses autocracy. Throughout the segment, you frequently see the individual engaging in one or more of these behaviors.

5: The individual is engaging in intense autocracy. The individual is engaging in one or more of these behaviors across the entire segment.

Withdrawal (Neutral-indirect)

Withdrawal occurs when a partner is not actively engaged in the discussion. The purpose of this tactic is to avoid the issue and thus the conflict. This may occur by avoiding the discussion, trying to frame the issue as unimportant, or just not being very communicative. He/She will avoid answering questions, give non-committal answers, and downplay the importance of the issue.

Behaviors to look for (consider frequency, intensity, and duration):
- The individual avoids discussing the problem by hesitating, changing topics, diverting attention, or delaying the discussion
- The individual ignores or refuses to acknowledge the problem or dismisses its importance or necessity for change
- The individual communicates little concern about the problem or the partner's desires for change, point of view, concerns or hurt feelings
- The individual disengages from the partner (e.g., reduced/glazed eye contact, physical distancing/closing off) and withdrawing from the discussion (e.g., becomes silent)

1: The individual never withdraws. You observe no instances of any of the behaviors described above.

2: The individual rarely withdraws. He/She may seem slightly distant or disengaged, but it's hard to tell.

3: The individual is occasionally withdrawn. You see some periods of disengagement or downplaying, but they are not particularly long, frequent, and/or intense.

4: The individual is frequently withdrawn. They may occasionally make a comment or show some sign of engagement, but they are mostly closed off, downplaying, or distant.

5: The individual is fully withdrawn. They are not engaging in the discussion at all.

Manipulation/Supplication (Negative-Indirect)

Manipulation and supplication utilize the feelings of the target of influence for their partner. The agent may try to induce guilt in the target by bringing up past behavior or appealing to partners' obligations and duty, or make the target feel sympathy for the agent by pleading, crying, acting helpless, debasing the self by acting humble or weak, whining, feigning moods or expressing emotion strategically to elicit cooperation, and highlighting the negative consequences the target's preferred plan of action has for the agent. These tactics hand over the responsibility of the decision to the partner.

Behaviors to look for (consider frequency, intensity, and duration):
- How much the individual attempted to make their partner feel guilty (e.g., reminding of past favors or partner transgressions, appealing to obligations/commitments or fairness, outlining what individual does for the partner).
- How much the individual used emotional expression of hurt (e.g., tears, sulking, making sad face, pouting) to influence his/her partner.
- How much the individual debased self (e.g., portrayed self as less capable, less worthy, or less powerful than partner).
- How much the individual emphasized the negative consequences their partner's behavior or an option has on him/herself (e.g., "how much it hurts me") in order to influence his/her partner.

1: The individual never uses manipulation or supplication. You observe no instances of any of the behaviors described above.

2: The individual rarely uses manipulation/supplication. He/She may seem to slightly guilt trip the partner or debase the self, but it's hard to tell.

3: The individual occasionally uses manipulation/supplication. You see some flashes of guilting/acting hurt/debasing self, but they are not particularly long, frequent, and/or intense.

4: The individual frequently uses manipulation/supplication. Throughout the segment, you frequently see the individual engaging in one or more of these behaviors.

5: The individual is engaging in intense manipulation/supplication. The individual is engaging in one or more of these behaviors across the entire segment.

Constructive (Positive-Direct)

Constructive tactics actively attempt to solve the problem by engaging positively with the partner. They directly and concretely address the problem at hand and encourage both partners to take an active role in resolution. The focus is on identifying issues, exploring alternatives and proposing solutions, and may include explaining the problem, suggesting solutions and attempting to find a resolution.

Behaviors to look for (consider frequency, intensity, and duration):
- How much the individual explains their point of view to partner and outlines possible causes to demonstrate the reason for their position (not just simply describing the problem, but attempting to demonstrate the reasonableness of their position)
- How much the individual questions their partner to get a clear understanding of the problem and asks for the partner's reasons to engage the partner in constructive discussion
- How much the individual uses reasoning, such as weighing up pros and cons, assessing consequences, presenting arguments in a logical fashion, suggesting solutions, outlining benefits of particular approaches in order to persuade/influence his/her partner
- How much the individual presents alternatives and is willing to compromise

1: The individual never uses constructive tactics. You observe no instances of any of the behaviors described above.

2: The individual rarely uses constructive tactics. He/She may seem to slightly explain or ask questions to move towards resolution, but it's hard to tell.

3: The individual occasionally uses constructive tactics. You see some flashes of explaining/questioning/reasoning/compromise, but they are not particularly long, frequent, and/or intense.

4: The individual frequently uses constructive tactics. Throughout the segment, you frequently see the individual engaging in one or more of these behaviors.

5: The individual is engaging in intense constructive tactics. The individual is engaging in one or more of these behaviors across the entire segment.

Soft Positive (Positive-Indirect)

Positive-indirect strategies soften the blow of influence/conflict and gently coax the partner. It may take many forms: (a) trying to get the argument across using a soft approach and not pushing (e.g., "It's not that big a deal" or "Anything we decide will be fine with me, but I would really like..."), (b) being open and validating to the partner' point of view so they will take into account your own point of view (not necessarily agreeing, but attempting to understand others' opinion as reasonable and encouraging the partner to reciprocate), (c) charming the partner and using positive affect or humor to boost the receptiveness of the partner or minimize conflict, (d) using relationship referencing to emphasize the importance of the relationship, stressing shared outcomes and their future as a couple together to influence the partner, or (e) being positive but not proactive about solving the issue,

Behaviors to look for (consider frequency, intensity, and duration):
- How much individual tried to soften persuasion attempts (e.g., minimize the problem or the strength of their opinion).
- How much the individual acknowledged, validated, and was open to their partner's views in order to facilitate persuasion.
- How much the individual tried to be charming, affectionate, and express positive affect (e.g., humor) in order to influence his/her partner.
- How much the individual referenced the relationship in a positive way to try to sell their opinion
- Showing loyalty by attempting not to react negatively to problem or partner's negative behavior within the interaction
- acknowledging the problem but not actively trying to get change, exhibiting optimism for the relationship and passively believing and hoping that it will improve

1: The individual never uses soft positive. You observe no instances of any of the behaviors described above.

2: The individual rarely uses soft positive. He/She may do some of these things slightly, but it's hard to tell.

3: The individual occasionally uses soft positive. You see some flashes of humor/blind optimism/minimizing, but they are not particularly long, frequent, and/or intense.

4: The individual frequently uses soft positive. Throughout the segment, you frequently see the individual engaging in one or more of these behaviors.

5: The individual is engaging in intense soft positive. The individual is engaging in one or more of these behaviors across the entire segment.

Issues in Relationships:
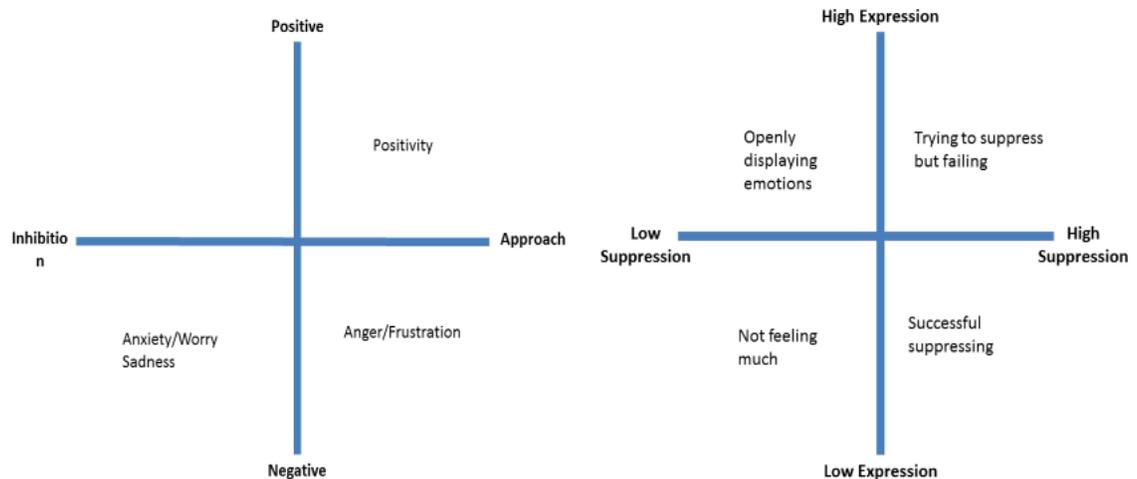# Emotion and Emotion Regulation
Codebook

Version 10.1.2015

Coding Overview

This set of codes concerns what emotions participants are experiencing during their conflict discussions, and the extent to which they openly expressing them vs suppressing them. The emotions can be categorized along two dimensions:

Positive vs. Negative: Is it a positive or negative emotion?

Approach vs. Inhibition: Does the emotion encourage directly engaging with the partner and issue, or does it encourage withdrawing?

	Positive				High Expression	
		Positivity			Openly displaying emotions	Trying to suppress but failing
Inhibition			Approach	Low Suppression		High Suppression
	Anxiety/Worry Sadness	Anger/Frustration			Not feeling much	Successful suppressing
	Negative				Low Expression	

Similarly, emotional expression and suppression are orthogonal. Someone can be high on both expression and suppression, low on both, or high on one and low on the other.

Coding will be conducted separately for each partner. Thus, the interactions will be viewed once to code the female partner, and then a second time later to code the male partner. Coders will watch the entire interaction first for context, and then watch it again in 30-second blocks, taking into account the frequency, intensity and duration of behaviors associated with each category within each 30-second segment of the interaction. At each 30-second interval, the software will stop the recording and the coder will provide a rating for each of the codes for the partner in the segment just reviewed.

Remember to rate all emotions on the same scale—a three on one emotion should represent the same frequency/intensity/duration as a three on another, even if one emotion is more rare. If needed, coders can take into account wider contextual information to determine the meaning of participant responses and presence of specific behaviors, such as the preceding and following interaction blocks. This can be especially valuable to distinguish the meaning of passive responses when there is low frequency of behavior within a specific segment.

Emotional Suppression

Also called emotional control, emotional suppression indexes the extent to which the person appears to be trying to control/suppress their expression of emotion, regardless of how successful these attempts are or the degree to which the different emotions above are visible. People may be suppressing successfully, and thus not expressing much emotion, or be trying to suppress their emotions but have them still break through. To help them control their emotions, people might seem to be slowing down the pace of the interaction by pausing or speaking slowly. They may try to block their expression by covering their face or holding back saying something. These control attempts might show through unnatural, self-conscious behavior. A mismatch between verbal dialogue and body language (e.g., smiling when talking about being really hurt) is also a strong indicator of emotional suppression.

Behaviors to look for (consider frequency, intensity, and duration):
- Periods of silence, slow swallowing/breathing, and infrequent blinking
- Trailing off mid sentence, repeating what was just said, using slow labored logic
- Looking away or covering the face
- Starting to say something and stopping
- Holding back behaviors: sitting on hands, tightly closed mouth, biting tongue
- Self-soothing behaviors: holding self, methodically rubbing
- Not breathing, blinking, swallowing, talking or moving naturally (more self-conscious)
- Mismatch between verbal dialogue and body language

1: The individual never uses emotional suppression. You observe no instances of any of the behaviors described above.

2: The individual rarely uses emotional suppression. He/She may show some minor signs of control, but it's hard to tell.

3: The individual occasionally uses emotional suppression. You see some signs of holding back, self-steadying, or verbal-physical mismatch, but they are not particularly long, frequent, and/or intense.

4: The individual frequently uses emotional suppression. Throughout the segment, you frequently see the individual engaging in one or more of these behaviors.

5: The individual is engaging in extreme emotional suppression. The individual is engaging in one or more of these behaviors across the entire segment.

Anger/Frustration

Anger and frustration are active, negative, harsh emotions. They may be expressed towards the partner, the progress of the discussion, or others not in the room. It may be expressed as hostile and sarcastic, cold and dismissing, or lecturing and domineering.

Behaviors to look for (consider frequency, intensity, and duration):
- Lowered eyebrows forming wrinkles in the forehead and tension in the eyes/mouth
- Scowling or confrontational expression
- Clenched teeth or exaggerated, incredulous, hostile expression ("seriously??")
- Glaring
- Raised voice or hostile tone
- Talking over or interrupting partner
- Expressions of exasperation: verbal ("uggh," "for god's sake") and nonverbal (throwing hands up, shaking head, pointing)
- Sharp or sarcastic tone of voice
- Closed off body posture
- Hostile/threatening gestures
- Eye rolling, disgust, dismissive shrugging
- Aggressive "attack mode" posture

1: The individual never expresses anger/frustration. You observe no instances of any of the behaviors described above.

2: The individual rarely expresses anger/frustration. He/She may seem somewhat annoyed or frustrated, but it's hard to tell.

3: The individual occasionally expresses anger/frustration. You see some scowling, glaring, hostility, etc but it is not particularly long, frequent, and/or intense.

4: The individual frequently expresses anger/frustration. Throughout the segment, you see frequent signs of these emotions.

5: The individual is constantly expressing anger/frustration. You see signs of these emotions throughout the entire segment.

Sadness

Sadness is a softer negative emotion that reflects and communicates sadness, dejection, resignation, pessimism, helplessness, and hopelessness. Sadness is often evident in a marked decrease in energy and growing passivity, often expressed through words, vocal quality, or facial expression.

Behaviors to look for (consider frequency, intensity, and duration):
- Lip corners pulled down
- Drooping eyes
- Crying or choking back tears
- Lips and chin trembling
- Head turned away or hanging down
- Body crumpling inward
- Low energy/slow movement
- Quiet, slow, sad voice timbre
- Quavering voice
- Sighing

1: The individual never expresses sadness. You observe no instances of any of the behaviors described above.

2: The individual rarely expresses sadness. He/She may seem somewhat down and sad, but it's hard to tell.

3: The individual occasionally expresses sadness. You see some sad facial expressions, slowing and turning inward, but it is not particularly long, frequent, and/or intense.

4: The individual frequently expresses sadness. Throughout the segment, you see frequent signs of this emotion.

5: The individual is constantly expressing anger/frustration. You see signs of this emotion throughout the entire segment.

Anxiety/Worry

Anxiety/worry captures the degree to which individuals are expressing anxiety, nervous anticipation, fear, or worry. Typically, this anxiety is about the consequences of the conversation, how their communication will be received by the partner, negative partner reactions, or changes in the partner's regard. This nervousness might lead people to be unsure of what to do or say.

Behaviors to look for (consider frequency, intensity, and duration):
- Tension in mouth with lip biting or licking
- Nervous smile/laughter
- Rapid eye movement
- Fidgeting, plucking at clothes, shifting body position
- Focusing on a foreign object (zipper, physio cords)
- Avoiding eye contact
- Seeming flustered, agitated, or on-edge
- Bracing for negativity
- Speech disturbances: hesitating, stammering, "uh"s and "ah"s
- Voice trembling and inconsistent in pitch/tempo

1: The individual never expresses anxiety/worry. You observe no instances of any of the behaviors described above.

2: The individual rarely expresses anxiety/worry. He/She may seem somewhat nervous or anxious, but it's hard to tell.

3: The individual occasionally expresses anxiety/worry. You see some nervousness, fidgeting, or fluster, but it is not particularly long, frequent, and/or intense.

4: The individual frequently expresses anxiety/worry. Throughout the segment, you see frequent signs of these emotions.

5: The individual is constantly expressing anxiety/worry. You see signs of these emotions throughout the entire segment.