An Experimental Analysis of Power and Aggression in Close Relationships

Jennifer Leigh Mills
College of William and Mary

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An Experimental Analysis of Power and Aggression in Close Relationships

A thesis submitted in partial fulfillment of the requirement for the degree of Bachelor of Science in Psychology from The College of William and Mary

By

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An Experimental Analysis of Power and Aggression in Close Relationships

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Abstract
The purpose of the current study was to examine aggression in romantic couples exposed to different power levels and different patterns of provocation. Participants in positions of high or low power were faced with one of four levels of provocation: Low, Decreasing, Increasing, and High. The amount of “bad juice” a participant was given to drink was used as the manipulation of provocation and the amount of “bad juice” a participant poured for his or her partner was used as the measure of retaliatory aggression. Seventy-nine couples completed multiple trials of drinking and allotting this juice for their partners. A 2 (sex) x 2 (power) x 4 (provocation) x 5 (trial) repeated measures ANCOVA and follow up post-hoc analyses indicated that, overall, participants responded to the provocation condition they were in: participants who received high amounts of provocation retaliated with higher levels of aggression and participants in the low provocation condition responded with lower levels of aggression. Participants in the High Power group poured a larger mean number of ounces of bad juice than participants in the Low Power group; however, participants in the Low Power group poured a greater percentage of juice for their partners than participants in the High Power condition. Men and women displayed similar levels of aggressive behavior, though differences emerged in interaction effects. Implications of these and other findings, as well as methodological limitations and directions for future research are discussed.
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In every intimate relationship there is a time when one partner behaves negatively towards his or her partner; in some cases these conflicts can escalate into violence. In a report for the United States Department of Justice on the extent, nature, and consequences of intimate partner violence, Tjaden and Thoennes (2000) define physical assault as “behaviors that threaten, attempt, or actually inflict physical harm.” In intimate relationships, physical aggression is defined as a combined physical action with the intent to cause pain or injury to the significant other (Hendrick & Hendrick, 2000). Physical aggression can be observed throughout all stages of a romantic relationship, from dating in adolescence to long-term marriages. These behaviors occur in many forms and in varying degrees of severity, from slapping or hitting a significant other to homicide.

The wide range of behaviors that constitute physical aggression in intimate relationships and couples’ unwillingness to truthfully report occurrences make accurate prevalence rates of intimate partner violence difficult to determine. This difficulty is exemplified by varying prevalence rates reported in the current literature. The National Family Violence Survey reported a yearly marital violence incidence rate of 16% (Straus & Gelles, 1990). Of the couples who responded to this survey, 28% reported the occurrence of some form of physical violence during their relationship. A study examining aggression in newlywed couples between the ages of 18 and 35 determined that 33% of these couples reported experiencing aggression (Lawrence, 2001). Another study examining violence in married couples revealed that 31% of men and 44% of women reported aggressing against their partner in the year directly preceding their marriage (O’Leary, Barling, Arias, Rosenbaum, Malone, & Tyree, 1989). In a study of married couples conducted 10 years later results indicated slightly lower rates of premarital aggression; 27% of
men and 28% of women reported at least one instance of premarital aggression (Leonard & Roberts, 1998).

Studies of intimate partner violence are not limited to married couples, however, as physical aggression can occur in all stages of relationships. Surveys show that violence among cohabiting couples may be more frequent than violence in married couples, with rates reaching 35% (Stets & Straus, 1989). Other findings indicated that these rates could be even higher, with physical aggression reported by 37% of men and 43% of women in young married or cohabitating couples (Elliot, Huizinga, & Morse, 1986). Stets and Henderson (1991) found that 30% of their sample of dating couples reported either being physically aggressive against their partner or being the victim of such physical aggression. College and high school students also report experiencing physical aggression in relationships. Studies of college populations offer a wide range of reports, indicating that 20% to 50% of students report experiencing partner aggression (Arias, Samios, & O’Leary, 1987; Bernard & Bernard, 1983; Breslin, Riggs, O’Leary, & Arias, 1990; Makepeace, 1981; Riggs & O’Leary, 1996; Rouse, Breen, & Howell, 1988; White & Koss, 1991). A study conducted in 1986 found that 35.5% of high school students reported to experiencing violence in a dating relationship (O’Keefe, Brockopp, & Chew, 1986). Gray and Foshee (1997) found that there are significant discrepancies in the rate of physical aggression in intimate relationships reported by high school students. Their study indicated that rates of physical aggression ranged from 12% to 36% (Gray & Foshee, 1997). From these cited studies it appears that between one-fourth and one-third of all couples in the United States experience some form of intimate violence in their relationship.

Most of the research conducted has focused on heterosexual couples. Homosexual relationships have been difficult to study because long-term homosexual couples are less
common than heterosexual ones (McClennen, Summers, & Daley, 2002). A survey of lesbian couples indicated that the violence rate among this population is between 25% and 50%, and the researchers estimated similar statistics for gay males (McClennen, Summers, & Daley, 2002). A different study of homosexual men and women indicated that 51.5% had experienced some form of domestic violence and confirmed that there were no significant differences in the amount of violence experienced by male and female respondents (Owen & Burke, 2004).

Homicide rates occurring in romantic relationships are lower than reported rates of physical violence, but the statistics are still startling. The U.S. Department of Justice (2007) reported 14% of all homicides in 2007 were committed by intimate partners. Approximately 1,300 women and 800 men are killed each year by intimate partners (Barnett, Miller-Perrin, & Perrin, 1997). Approximately one third of female murder victims aged 12 or older are killed by an intimate partner, versus about 3% of male victims (Fox & Zawitz, 2007).

Gender Differences

Gender differences in relationship aggression are complicated by the fact that men and women tend to become violent due to different reasons (Geen, 1998). In one study examining these causes for aggression, women were more likely to get angry when others are insensitive and act in a condescending or verbally abusive manner (Harris, 1993). In contrast, men were more likely to be angered when they are attacked physically (Harris, 1993).

 Nonetheless, researchers examining the prevalence rate of aggression in close relationships also attempt to determine whether male or female partners aggress more in a relationship. The idea of “battered woman syndrome,” a form of post-traumatic stress disorder, defined most of the early literature in intimate violence. This syndrome is characterized by a woman believing that violence is her fault, her inability to accurately place responsibility of the
violence, fearing for her safety or life, and a fear that her abuser is omnipresent (Frieze, 2005b). More recently scholars have determined that the prevalence of “battered woman syndrome” in literature from the 1970s through the 1990s have led to a bias in how society perceives the directionality of aggression in romantic relationships (Langhinrichsen-Rohling, 2005; Walker, 2000). The prevalence of battered women’s shelters and the fact that women are more likely to seek asylum from abusive partners than are males who are abused have also contributed to the notion that males are more aggressive in relationships. Researchers have accepted the fact that men are generally more aggressive than females (Maccoby & Jacklin, 1974; Williams & Best, 1982; Lightdale & Prentice, 1994); however these studies were based on characteristics of masculine and feminine behavior and not studied in relation to violence in romantic relationships. More recent research concerning gender roles in intimate partner violence indicate that both women and men can be equally aggressive towards their partner (Archer, 2000). A recent study conducted by Frieze (2005a) indicated that 90% of all men who reported being victimized in an intimate relationship were abused by a female partner. These findings indicate that women can, and do, aggress against their partners.

Many recent studies have found that there are few differences between the rates of intimate partner violence reported by men and women, but that differences occur in the type of violence displayed. Several studies have found that when large community samples are surveyed about milder forms of violence, men and women report initiating similar levels of physical aggression against their partner (Archer, 2000; Capaldi & Owen, 2001; Straus, Gelles, & Steinmetz, 1980). Most data on gender differences in couple aggression are collected by self-report measures, where subjective reporting can lead to significant differences in estimates (Archer, 2000). A study examining intimate partner violence in dating couples indicated that
32% of women and 39% of men reported being the recipient of physical aggression from their partner (White & Koss, 1991). Though the numbers are slightly different, a study dating or married couples, whose partners were between the ages of 18 to 24 year olds, found that 43% of women and 37% of men reported aggressing against their partner in the past year (Elliot, Huizinga, & Morse, 1986). Though these numbers suggest that men and women aggress against their partner at similar frequencies, the type of violence used by each sex differs significantly. Women are more likely to aggress by throwing something, biting, kicking, or punching their partners, whereas men are more likely to choke and “beat up” their partner (Archer, 2002). Because men use more violent behaviors when they aggress against their partner, several studies have shown that men are more likely to cause fear and injury in their partners (Archer, 2000; Capaldi & Owen, 2001; Kwong, Bartholomew, & Dutton, 1999). This is attributable both to the type of aggression displayed by men, as well as to men’s greater strength and larger size compared to their female partners (Hendrick & Hendrick, 2000). The fact that men are more likely to cause injury when they engage in violent behaviors against their partners also contributes to society’s incorrect assumption that men are always more aggressive in relationships.

**Types of Violence**

All violent acts are also classified as aggressive acts; however aggression does not necessarily have to be violent (Joireman, Anderson, & Strathman, 2003; Frieze, 2005b). Nonviolent aggression can include verbal hostility, destruction or taking of property, and feelings of resentment or suspicion (Frieze, 2005b). Even though violent and nonviolent aggression are considered very different and studied in different ways, research has shown that psychological aggression is a good predictor of physical aggression in a relationship (Leonard & Senchak,
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1996; Hamby & Sugarman, 1999). Research not only suggests that nonviolent aggression is a predictor of violent aggression, but that both forms of aggression frequently occur simultaneously (Frieze, 2005b; Marshall, 1994). Although violent and nonviolent aggression is studied separately, it is important to acknowledge the relationship between these two forms of aggression.

Previous research has examined the characteristics of violent aggression; Johnson (1995) has identified two main categories that all intimate partner violence can be grouped into. Situational couple violence (SCV) is the milder form of intimate violence and is commonly referred to as common couple violence (Johnson, 1995; Johnson & Leone, 2005). SCV is the more common form of couple violence and is estimated to occur in approximately 50% of American couples (Olson, 2002). This form of violence results from a couple’s lack of constructive approaches to conflict resolution, but SCV rarely results in serious or life-threatening violence (Olson, 2002; Johnson 1995). As the name indicates, SCV is displayed only in certain situations, occurring when a conflict “gets out of hand” (Johnson, 1995, p. 285).

The second, more violent form of aggression is called intimate terrorism (IT), also known as patriarchal terrorism indicative of the patriarchal tradition of men dominating women. IT involves much more frequent, prolonged aggression and can result in physical injury (Olson, 2002).

These two types of violence are also defined by the motivation behind the actions. As discussed above, SCV is limited to specific conflicts on a more situational basis; conversely, IT is used to create patterns of fear and control (Johnson, 1995; Johnson & Leone, 2005). SCV is generally considered the “milder” form of couple violence and is not intended to change the dynamics of power in a relationship. Most violence of this type is reciprocated by a partner.
Thus, SCV is seen in relatively equal amounts in men and women (Olson, 2002). On the other hand, IT is generally one-sided and is used to create a power imbalance between the partners (Olson, 2002). Researchers claiming that men and women show equal amounts of aggression towards their partners are most likely measuring SCV, rather than IT.

**Individual Factors**

Whether or not a person will become violent is largely dependent on an individual’s characteristics and experiences. One common predictor of intimate partner violence is past experience with violence and aggression. This theme follows the social learning theory of aggression, which states that children who have observed aggression in their families may learn to accept violence in romantic relationships as an acceptable way to solve a conflict or express frustration (Bandura, Ross, & Ross, 1961; Baron & Richardson, 1994; Kalmuss, 1984; Eron, 1997; Hines & Saudino, 2002). Research suggests that individuals who have witnessed violence in their household or who have been abused themselves are more likely to be aggressive towards their intimate partner than individuals who do not have experience with parental violence (Hines & Saudino, 2002; Frieze, 2005b). In a survey of college students, individuals who had experienced or witnessed abuse during their childhood were more than twice as likely to be violent in their intimate relationships (Bernard & Bernard, 1983). Another study of newlywed couples was conducted to chart the course of aggression in a marriage by studying each couple for four years (Lawrence, 2001). This study found that the most reliable predictor of aggression at the beginning of the marriage was an individual’s experience with aggression in his or her childhood family. It is important to note that this connection is displayed most clearly by men who experience aggression and violence in their childhood. There is also a connection between women who witness violence in childhood and later victimization in romantic relationships, but
there is less evidence supporting this link (Carden, 1994; Simons, Lin, & Gordon, 1998; Johnson & Ferraro, 2000). While exposure to violence remains the most common predictor of intimate partner violence, it is necessary to note that most children who are exposed to family violence will not become aggressive adults. There are also limitations to this social learning theory, such as individual, emotional, and personality differences that alter the way people respond to situations (Widom, 1989).

Violent and nonviolent aggression in past romantic relationships can also be a predictive factor for current relationship aggression. In a longitudinal study of newlywed couples Schumacher and Leonard (2005) found that physical and verbal aggression in a marriage are significant predictors of future aggression in the marriage. Generally, wives’ nonviolent (verbal) aggression predicted future physical aggression of both spouses. In contrast, husbands’ nonviolent aggression predicted only their own future physical aggression but was not related to their wives’ aggression (Schumacher & Leonard, 2005). An earlier study of a similar sample found that both spouses’ physical aggression serve as a predictor for future physical aggression in a marriage (Capaldi & Owen, 2001). Thus, past and current aggression in intimate relationships serves as a predictor for an individual’s future aggressive behavior in a relationship.

Another common predictor of an individual’s likelihood to aggress against a romantic partner is current stress and frustration in his or her personal life. One study reported that an individual’s negative or frequent stressors relating to their occupation, and/or interpersonal relations or a recent experience with loss may increase the likelihood of couple violence (Cano & Vivian, 2003). Frieze (2005b) points out that many stressful life circumstances, including low income, low socioeconomic status, unplanned pregnancy, and unemployment can contribute to aggression in close relationships. It is believed that individuals who behave violently in response
to stressful life events have difficulty in coping with these challenges, as violent individuals are more likely to experience a greater impact from these stressors than nonviolent individuals (Cano & Vivian, 2003).

A fourth factor contributing to an individual’s likelihood to aggress against their partner concerns the personal qualities and skills of the individual. Several studies have suggested that a prominent predictor is poor problem-solving skills and insufficient empathy (Richardson, Hammock, Smith, Gardner, & Signo, 1994; Hammock, 2002; Bond & Bond, 2004). Hammock (2002) conducted a study of college-aged individuals and found that poor problem-solving skills predicted psychological aggression (e.g., ridiculing, verbally offending or derogating, isolating partner) in both men and women. Women who aggressed against their partner engaged in problem-solving by obliging and with less avoidance than their male partners. On the other hand, men who aggressed were less likely to use constructive conflict management skills and instead used aggression as their primary approach to conflict management (Hammock, 2002).

Empathy, which includes both understanding the perspective of others and having concern and sympathy for others, is another component necessary for problem-solving that seems to be lacking in individuals who display aggressive tendencies (Hammock, 1992; Richardson et al., 1994).

Several studies have examined the strategies utilized in place of appropriate problem-solving skills in individuals who are likely to aggress against their partner and have found that the tactics most likely to be used include domination, coercion, contempt, and belligerence (Hammock, 1992; Jacobson & Gottman, 1998). Jacobson and Gottman (1998) describe domineering as trying to stifle, suppress or control the behavior of one’s partner. Contempt refers to demeaning or insulting the other partner, and belligerence includes taunting one’s
partner or challenging his or her partner with the intent to provoke. One study examined aggressive college student’s strategies for resolving conflict with siblings, friends, and strangers and found that domination and coercion were the most prominent tactics implemented (Hammock, 1992). Although this study did not specifically address romantic partners the relationship between domination and physical aggression may be relevant in intimate partner violence as well. In place of productive problem-solving skills, individuals who are likely to be violent in their intimate relationships attempt to challenge, demean, and control their partners in order to solve conflicts.

Other characteristics that may be present in individuals who display aggression in their romantic relationships are: aggressive tendencies, high levels of masculinity, and antisocial personalities (Ehrensaft, Moffitt, & Caspi, 2004; Hammock & Richardson, 1992; Capaldi & Owen, 2001). Hammock and Richardson (1992) conducted a study examining predictive factors of aggressive behaviors and found aggressive tendencies and high levels of masculinity related to high levels of unprovoked aggression. Capaldi and Owen (2001) used self-report, parent report, and coder ratings to determine predictive characteristics for aggressive behaviors in young couples. Results from this study indicated that antisocial behavior was positively related to an individual’s physical aggression towards a romantic partner. Hammock and O’Hearn (2002) examined the relationship between physical and psychological aggression, and the role that both individual and situational factors in relationship aggression. In this study individual factors were associated with threat susceptibility and included self-esteem, trait anger, Machiavellianism, neuroticism, and perceptions of intimacy (Hammock & O’Hearn, 2002). Situational variables included relationship length, emotional commitment to partner, conflict management strategies, and alcohol consumption (Hammock & O’Hearn, 2002). Hammock and O’Hearn (2002) found
that both individual and situational variables predict psychologically aggressive acts in romantic relationships, the variables that predicted the use of physical aggression also successfully predicted psychological aggression, and that there are potentially different motives in the use of psychological aggression in men and women.

**Relationship Dynamics**

Individual dynamics are not the only predictive factor for relationship aggression; there are also differences in the dynamics of couples. Most of the literature on relationship differences between violent and nonviolent couples examines how demands are discussed and the reactions associated with them. Couples who have not displayed aggression in their relationship respond to demands for a partner to change with neutral or positive emotions and openness for discussion. Conversely, couples who have displayed aggression in the past are likely to respond to demands with resistance, anger, and withdrawal from conflict (Holtzworth-Munroe, Smutzler, & Stuart, 1998; Jacobson & Gottman, 1998). Research in demand patterns in violent relationships found that husband were the demanders while wives tended to withdraw (Jacobson & Gottman, 1998). In this study the husbands in the aggressive relationships fit into two categories based on their behaviors during conflicts, which Jacobson and Gottman named Cobras and Pit Bulls. Cobras are known for becoming very still before striking a victim; thus the men who display this type of violence become calmer and focused during conflicts with their wives before they strike out. Pit bulls characteristically become increasingly aggressive while they attack their victim; thus husbands who fit in this group increase their level of aggression during conflicts with their wives, becoming more violent (Jacobson & Gottman, 1998). Both Cobras and Pit Bulls withdraw and resist their wives’ demands to change them, which may indicate a reassertion of control in the relationship (Jacobson & Gottman, 1998).
Dependency is another dynamic in close relationships which may play a role in partner aggression. Pit Bulls are emotionally dependent on their wives and constantly concerned about abandonment. Pit Bulls simultaneously resist the demands of their wives while continuing to demand more of their wives (Jacobson & Gottman, 1998). As previously described, violent individuals often have shortcomings in problem-solving and communication; thus aggression may be the only way a violent husband engages in problem solving with his wife (Olson, 2002). Thus, Jacobson and Gottman (1998) suggest that Cobras use violence to resist the demands of their wife, whereas Pit Bulls may use violence to either resist demands or to insist demands from their wife (Jacobson & Gottman, 1998).

 Whether a wife becomes aggressive in retaliation or withdraws from the violence seems to have little or no effect on a husband’s violence in a relationship (Cordova et al., 1993; Jacobson, Gottman, Waltz, Rushe, Babcock, & Holtzworth-Munroe, 2000; Jacobson & Gottman, 1998; Margolin, John, & Gleberman, 1988). There is evidence that wives in violent marriages respond to their husbands’ violent behavior by decreasing the amount of aggression, both violent and nonviolent, that they display during an argument (Margolin et al., 1988). However, even when wives attempt to deescalate the violence by withdrawing studies indicate that no behavior by wives have been found to reliably stop the husband’s violence once it has begun (Jacobson et al., 2000; Jacobson & Gottman, 1998).

**Power in Relationships**

Another factor that has been known to play a role in intimate partner aggression is the distribution of power in a relationship. Power is a difficult construct to measure because it is not one-dimensional; instead there are many areas in which a partner can establish dominance over his or her partner (Herr, 1963). Power in relationships has been evaluated through many
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avenues, from self-reports (Cromwell & Olson, 1975) to observational measures (Gray-Little & Burkes, 1983). Even with an influx of research in this area since the 1970s, the findings from studies comparing power in relationships have been varied (Gray- Little & Burkes, 1983). These varying findings about the role of power in relationships are attributed to the multi-dimensional nature of power. Most of the studies on power in close relationships refer to marital power, a concept that each researcher defines slightly differently (Scanzoni, 1979). Marital power, or power in any intimate relationship, can be divided into three domains: power bases, power processes, and power outcomes (Cromwell & Olson, 1975). Power bases are personal assets, like knowledge, skills, and resources, which are the foundation for one person’s assertion of power over the other (Gray-Little & Burkes, 1983). Power processes are interactional techniques or skills that an individual uses in an attempt to gain power, including assertiveness, problem-solving, and persuasion (Cromwell & Olson, 1975). Finally, Cromwell & Olson (1975) define power outcomes as having control over final decisions or “who wins.” These three categories help distinguish among different types of power available to partners in close relationships.

Many researchers have also examined power in intimate relationships through the lens of equity theory (Donnerstein & Hatfield, 1982; Walster, Berscheid, & Walster, 1978). Equity theory is based upon the fact that in any interaction or relationship there is inequity when conflicting individuals have different degrees of power to harm one another (Richardson, Vandenberg, & Humphries, 1986). This theory links the relationship between the ability to inflict harm and the ability to threaten, as a person who has a greater ability to harm their partner is also perceived as more threatening than someone who has equal or less power (Richardson et al., 1986). Equity theory is further explained as a balance maintained between those with positive inequity, who have more power and control, and those with negative inequity, who are
in a more vulnerable position (Richardson et al., 1986). This theory can be applied to situations between strangers as well as between partners in an intimate relationship.

Power dynamics also play a significant role in the concept of retaliation. In a study examining gender differences in power distribution, Frondi, Macauley, and Thorne (1977) found that when females experienced high levels of provocation in an experimental paradigm, they felt justified in responding aggressively towards their partner. This study did not examine romantic partners; however the finding that women retaliate aggressively against high provocation can be applied to women in intimate relationships. Richardson et al. (1986) note that in a “realistic” situation a female generally has less physical power than a male, so she may not respond aggressively to provocation for fear of a male partner’s retaliation. Thus, in close relationships women are less likely to act aggressively towards their romantic partner when he has more physical power and a greater ability to harm. In another study examining the gender differences in power distributions, Richardson et al. (1986) examined male and female undergraduate students in an experiment that gave participants less, equal, or greater amounts of power relative to their target, when selecting shock intensities for one another. The participants in this study were strangers who told that they would be administering shocks to their randomly assigned “partner” based on their performance in a series of reaction time tasks. Participants in the less power condition consistently set higher shocks for their targets than did participants in greater or equal power conditions. This effect of power was most clearly seen when male participants were in the less power condition, and males were much more likely to respond violently. Thus, Richardson et al. (1986) concluded that people (especially males) who have less power in an interaction are more likely to retaliate at a higher rate.
The most recent studies about power distributions in relationships confirm the findings of Richardson et al. (1986), suggesting that when male partners perceive themselves as having less power than their female partner they are more likely to retaliate aggressively in order to gain control. In studies where female targets are perceived to be threatening, males tend to lose their inhibitions against hurting females (Hammock, Richardson & Clark, 1985; Richardson, 1981; Richardson, Leonard, Taylor, & Hammock, 1985; Thompson & Richardson, 1983). Babcock, Waltz, Jacobson, and Gottman (1993) examined aggression in marital relationships based on communication patterns and power differences revealed that when the male partner is in a subordinate role to a female there is increased risk of aggression in the relationship. In this study Babcock et al. concluded that power discrepancies in a marriage predict husband-to-wife violence if the husband is in a subordinate role or perceives that he has less control. There are multiple sources and types of power discrepancies in a marriage, including economic power, decision making power, communication patterns and communication skill (Babcock et al., 1993). Another study evaluating power dynamics in marital relationships examined relationship violence in relation to income (Hornung, McCullough, & Sugimoto, 1981). This survey found that women were more likely to experience domestic abuse if their job was higher in status or if they earned a higher income than their husbands. From these studies it can be concluded that when males are in a subordinate role in a relationship, or feel that they have less power than their partner, there is an increased risk for aggression in intimate relationships.

The subject of power and aggression in close relationships is not an area of significant amounts of empirical research; most of the studies in this area rely on self-report measures and interviews. Usually in these studies power is defined by the type of work or income of each partner (Hornung et al., 1981); however because there are so many types of power and different
ways to define power it is a difficult construct to operationalize. Most laboratory studies measure aggressive responses when both participants have equal power to harm one another (Richardson et al., 1986). Aggression studies typically allow participants to deliver some unpleasant stimuli, such as an electric shock or loud noise, but these studies do not reflect real-world aggressive interactions in which partners usually have disparate abilities to cause harm or threaten.

The most common forms of data collection used to study aggression in relationships are self-report measures, such as surveys and questionnaires. Many problems are associated with collecting data via self-report, because participants are more likely to be biased in their reports and to be hesitant to respond in the first place. Further, most forms of aggression are not accurately measured in self-report surveys because they do not accurately describe the context of the aggression; rather they focus only on the frequency of violence and the descriptions of certain aggressive acts. The context and course of an aggressive act are often not explained in self-report measures; for example an aggressive interaction may have been previously provoked or it may have involved violence from both partners (Imbraguglio, 2005; Viggiano, 2010). Thus, self-report measures do not accurately describe the entire context of an aggressive encounter.

While there are many empirical studies that also examine the nature and causes of aggression in close relationships, they often are not truly representative of real-world situations. Most laboratory studies regarding aggression have couples predict how they would respond in hypothetical situations, have them reenact or discuss prior disputes, discuss a controversial topic, or engage in activities like the Prisoner’s Dilemma game (e.g., Jacobson & Gottman, 1998; Margolin et al., 1988; Rusbult et al., 1991). These studies, while more reliable than self-reports, have a limited generalizability to situations outside of the lab. Most of these studies do not
operationalize aggression and often do not involve examining the context of an aggressive situation, so researchers have a hard time generalizing findings to real-world situations.

A popular method of measuring aggression was designed by Buss (1961), which assessed a participant’s willingness to deliver a fictitious shock to another person in a learning task. This paradigm has been utilized in hundreds of laboratory studies (Richardson et al., 1986; Baron & Richardson, 1994). In the Buss paradigm, a participant is informed that he or she will act as the teacher and present learning materials to another participant, though this other participant is actually a confederate (Baron & Richardson, 1994). If a learner responds correctly, the participant is told to reward him or her by illuminating a light signaling the correct response; if the learner responds incorrectly, the participant is told to administer a punishment in the form of an electric shock (Baron & Richardson, 1994). The three measures of aggression in the Buss paradigm are the shock intensity, shock duration, and total aversive stimulation, which is a product of shock intensity and shock duration (Baron & Richardson, 1994). The advantages of this design are the fact that no electric shocks are actually administered and that participants can select the shock intensity and duration as a way to measure aggression (Bernstein, Richardson, & Hammock, 1987). This paradigm is limited, however, in that there is not opportunity for the “learner” to retaliate and the participant may deliver the shocks in an effort to facilitate learning but not in an effort to harm the other participant (Baron & Richardson, 1994).

Building off of the Buss procedure, the Taylor paradigm (1967) eliminated the teacher-learner method and integrated a reaction time task. In this paradigm, a participant is instructed to choose a shock intensity to be administered to his or her opponent if the opponent produces a slower reaction time on the trial (Baron & Richardson, 1994). In contrast to the Buss paradigm (1961), in the Taylor paradigm (1967) the participant is told that if he or she loses a trial they
will receive a shock, thus there is punishment for the participant. The experimenter actually manipulates the wins and losses, as well as the shock intensity delivered to each participant (Baron & Richardson, 1994). In this procedure, the first trial represents a measure of unprovoked aggression, as the participant must choose shock intensity for his or her opponent prior to having received any shocks (Bernstein et al., 1987). The Taylor paradigm more closely resembles a real-world situation in which individuals might be subjected to retaliatory aggression, however several critics have suggested that participants’ behaviors in this paradigm may be viewed as competitive rather than aggressive (Baron & Richardson, 1994). That is, participants may be focused on the competitive nature of the reaction time task and may not use the shocks as retaliation. Nevertheless, both the Buss and Taylor paradigms are popular methods for measuring aggression and Bernstein et al. (1987) reported some evidence for convergent and discriminant validity.

In these studies participants are given equal opportunity to harm each other; thus there is no way to assess the role that power plays in aggressive situations (Richardson et al., 1986). Though many studies on aggression exist, there is an obvious lack of studies that assess the relationship between power and aggression in intimate relationships through laboratory studies in which provocation and power are controlled and manipulated by the researcher.

**Current Study**

A laboratory paradigm is the most accurate way to assess power and aggression in close relationships in a situation where self-reporting bias will not affect participants’ responses and the researcher can manipulate which partner has more power. One method of assessing aggression in a laboratory setting is the Taylor paradigm (1967), which measures aggression based on the administration of an electric shock. In this procedure participants are instructed to
select a shock intensity that they will administer to their opponent if they perform slower in a reaction time task (Baron & Richardson, 1994). In this paradigm higher intensity shocks that participants select for their partners are associated with higher levels of aggression. However, the experimenter actually manipulates which partner wins and which loses each round, as well as the intensity of the shock actually delivered (Taylor, 1967). This paradigm can also be constructed using loud blasts of noise instead of electric shocks, where long, loud blasts indicate higher levels of aggression (Denson, Capper, Oaten, Friese, & Schofield, 2011).

Another laboratory paradigm sometimes used to assess aggression was designed by McGregor, Lieberman, Greenberg, Solomon, Arndt, Simon, & Pyszczynski (1998). In this experiment, participants read an essay that they were told was written by another participant. After reading the essay they were given the opportunity to give the author any quantity of a very spicy hot sauce, after they were informed that this person does not like spicy food. The study found that participants allocated more hot sauce if the author wrote an essay that disagreed with their own political perspective (McGregor et al., 1998). In this study, aggression was measured based on the amount of hot sauce that the participant poured for the author. The McGregor et al. (1998) study was the first to use this “hot sauce method” and many studies have followed this design, using hot sauce as an accurate measure of aggression. McGregor et al. (1998) also used a bad tasting juice in their study; this was the first study to use a “bad juice” methodology in aggression research. The “bad juice” in this study consisted of grape Kool-aid and white vinegar, but it is important to note that McGregor et al. (1998) only used the “bad juice” as a measure of provocation; it was not used as a measure of aggression.

In a study at the College of William & Mary, Miller (2003) used a variation of the McGregor et al. (1998) paradigm using a bad tasting juice consisting of Gatorade, lemon-lime
soda, and hot sauce. Imbraguglio (2005) used this same recipe for “bad juice” to assess aggression between intimate partners. In this study, participants who were highly provoked displayed the highest levels of aggression and participants who were not provoked displayed little or no aggression (Imbraguglio, 2005). This design was modified by Link (2007) and Viggiano (2010) to measure role of cognition and couple aggression in a response choice paradigm. These studies use amount of “bad juice” given to a participant to drink as a measure of provocation, and the amount of “bad juice” a participant pours is then used as the measure of aggression. These studies have all found similar results, suggesting that this “bad juice” paradigm is an accurate measure of aggression in relationships. The current study will implement the paradigm designed by Imbraguglio (2005) in which bad juice will be used to provoke participants and to measure their levels of aggression.

The current study will assess the relationship between power and aggression in close relationships, an area that has not been studied in a laboratory setting. For instance, if one partner has less power in a situation, will they retaliate with a higher level of aggression or more quickly than if they had equal or greater power relative to their partner? Another factor to be assessed is whether the gender of the participant with greater power will have an effect on their aggressive responses. Based on Imbraguglio (2005) it is predicted that participants who receive the highest amount of provocation will respond with the highest levels of aggression. It follows that the participants who receive the lowest provocation level will demonstrate little or no aggression. Participants who receive increasing amounts of provocation will respond with increasing levels of aggression, and participants who receive decreasing amounts of provocation will display decreasing amounts of aggression. Along with the amount of provocation a participant receives, it is also predicted that the amount of power a participant has will affect his or her aggressive
behaviors. According to the results found by Babcock et al. (1993) it is predicted that individuals with less power than their partner will retaliate faster and with higher levels of aggression than individuals who have more power than their partner. It is also predicted that this effect will be more apparent when the male is the subordinate partner; that is, when a male partner has less power over his partner he will display higher levels of aggression then when a female partner is in the subordinate role.

**Method**

**Participants**

Seventy-nine heterosexual and 2 homosexual couples participated in this study. (Because of a lack of power to detect any orientation differences, the homosexual couples were not included in the analyses). At least one participant from each couple was recruited from an Introductory Psychology class at The College of William & Mary. Each participant who was enrolled in an Introductory Psychology class received an hour of research participation credit; no other incentive was offered. The data from four participants, two females and two males, were not included in analyses due to knowledge of the true nature of the study.

The majority of participants (96.7%) were between 18 and 23 years old, with the remaining participants between the ages of 24 and 41. The mean age of participants was 19.4 years. All participants were in heterosexual dating relationships, with the exception of one married couple. The majority of participants were in exclusive relationships (98.0%). Most (67.5%) of the participants had dated between 2 and 6 months. Thirteen percent of the participants had dated between six months and one year. Only 7.8% of the participants had dated between one year and one and a half years. Finally, 10.4% of the participants had dated between one and a half years and five years. Two participants had been a couple for eighteen years. The
majority of participants (68.8%) were Caucasian. Of the remaining participants, 11.0% were Asian/Pacific Islander, 7.1% of participants were African-American/Black, 8.4% of participants were Hispanic, and 4.5% of participants were of other races.

Measures

Several questionnaires were used to supplement participants’ behavioral responses in the provocation task. These questionnaires focused on aggressive behavior displayed by each partner, conflict management skills practiced by both partners, and previous aggressive encounters in the relationship. The questionnaires were also used to assess self-reported aggressive behavior and conflict management skills, as well as to examine the emotional effects participants felt after their partner aggressed against them.

Post-Juice Feelings Questionnaire. This 11-item questionnaire developed by Miller (2003) evaluates participants’ feelings following the bad juice paradigm (see Appendix A). The first five questions ask about the mazes participants completed on each trial to reinforce the cover story, the juice, and how the participant determined how much juice to pour for his or her partner. Sample questions include “How much juice were you given to drink?” and “To what extent do you think the amount [of juice] you were given by your partner influence the amount you poured for your partner?” The remaining six questions asked about the participant’s current feelings about their partner. Sample questions include “How much do you like your partner right now?” and “How wronged do you feel by your partner right now?” All questions were answered using a 7-point Likert-type scale from 1 (depending on the question, “a little,” “very easy”, or “very bad”) to 7 (depending on the question, “a lot,” “very hard, or “very good”).

Background Information Questionnaire. This 10-item questionnaire (see Appendix B) assesses demographic information about the participant and it gathers information about several
aspects of the relationship. The first three questions ask the sex, age, and race of the participant, respectively. The next seven questions focus on several aspects of the relationship, such as the length, satisfaction, and future. Sample questions include, “In general, how satisfied are you with your current romantic relationship?” and “Though times may change and the future is uncertain, how sure are you that your partner will always be ready and willing to offer you strength and support?” The questions are answered using select an answer; fill in the blank, or a Likert-type scale from 1 (depending on the question, “Much less close” or “Not at all”) to 9 (depending on the questions, “Much closer” or “Very”).

**Aggressive Behavior in Relationships (ABIR).** The ABIR (see Appendix C) is a combined version of the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) and the Severity of Violence Against Women/Men Scales (SVAWS, Marshall, 1992a; SVAMS, Marshall, 1992b). The CTS2 is a 78-item questionnaire to assess psychological and physical violence and negotiation in close relationships. The CTS2 includes five scales: reasoning/negotiation, psychological aggression, physical assault, sexual coercion, and injury. For the ABIR, the questions on the sexual coercion scale were excluded because they exceeded the scope of the current study. A sample item on the CTS2 measuring reasoning/negotiation is, “I showed my partner I cared even though we disagreed.” An example item on the CTS2 of psychological aggression is, “I shouted or yelled at my partner.” An item measuring physical assault is, “I slapped my partner.” Finally, an example item measuring injury on the CTS2 is, “I went to a doctor because of a fight with my partner.” These questions were answered on an 8-point scale based on how frequently the participant and their partner had engaged in each specific act during the past year (never, not in past year but has happened, and
regarding in past year: once, twice, 3-5 times, 6-10 times, 11-20 times, and >20 times). Internal consistency of the CTS2 ranges from .79 to .95 (Straus et al., 1996).

The Severity of Violence Against Women/Men Scales (SVAW/MS) (Marshall, 1992a, 1992b) each consist of 46 items ranked by both partners in a relationship (92 total) assessing threats of violence and actual incidents of violence in romantic relationships. The questions are divided into three scales: threats of abuse, actual abuse, and sexual aggression. The questions relating to sexual aggression were eliminated when forming the ABIR because they exceeded the scope of the study. Participants rate how frequently their partner performed each of the behaviors in the past year. Sample questions for the threat of abuse scale are, “My partner threatened someone I care about” and “My partner threatened to harm or damage things I care about.” The actual abuse scale included items such as, “My partner threw, smashed, or broke an object” and “My partner hit or kicked a wall, door or furniture.” Items are scored on a 4-point Likert-type scale from 1 (“never”) to 4 (“many times”). Internal consistency ratings are high, with alpha ratings of .91 for the threats of abuse dimension, and .94 for the actual abuse dimension (Gist, McFarlane, Malecha, Willson, Watson, & Fredland, 2001).

The current study used a combined version of the CTS2 and the SVAWS/MS developed by Imbraguglio (2005, see Appendix C). The questionnaire consists of 82 items which assess different aggressive acts and conflict resolution skills, which offer breadth and efficiency in a combined measure. Questions are answered using the same 8-point scale employed by the CTS2. For specific items and their original sources, see Appendix C.

The Rahim Organizational Conflict Inventory (ROCI). This 28-item questionnaire (see Appendix D) measures five different conflict management strategies: integrating, obliging, dominating, avoiding, and compromising (Rahim & Bonoma, 1979). Integrating consists of six
items and is a conflict response in which solutions satisfy both parties. Obliging involves low concern for the self and high concern for one’s partner; this scale consists of six items. Dominating consists of five items and is a conflict response involving high concern for the self and low concern for one’s partner. Avoiding consists of six items and is associated with low concern for the self as well as for the partner. Finally, compromising involves both partners conceding to some demands of the other in order to reach an agreement; this strategy consists of four items. The ROCI questionnaire was designed to measure these five conflict management strategies; however, research has shown that when studying personal relationships compromising and integrating are best combined into one construct labeled “problem-solving” (Hammock, Richardson, Pilkington, & Utley, 1990).

Items on this questionnaire ask about specific actions towards one’s romantic partner. These questions were answered using a Likert-type scale ranging from 1 (never) to 5 (always). Obliging is assessed with questions such as “I accommodate the wishes of the other person.” An example of a domineering question is “I use my authority to make a decision in my favor.” An example of a question measuring avoiding is “I avoid open discussion of my differences with the other person.” Finally, “problem solving” is assessed with integrating questions such as, “I try to bring all our concerns out in the open so that the issues can be resolved in the best possible way” and compromising items like “I use ‘give and take’ so that a compromise can be made.” Alpha coefficients for the ROCI questionnaire range from .88 to .92 (Hammock et al., 1990).

Subtle and Overt Psychological Abuse Scale (SOPAS). This abbreviated 35-item questionnaire assesses non-violent couple aggression (see Appendix E). Marshall (1999) developed the scale with the belief that subtle acts of aggression are not always perceived as harmful. Further, subtle psychological abuse may be hard to recognize if it is presented in a
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loving or caring way (Marshall, 1999). The first section of the questionnaire consists of 15 items and leads with “How often does he…,” whereas the second section consists of 20 items and leads with “In a loving, joking, or serious way, how often does he…” Participants respond using a six-point, Likert-type scale from 0 (never) to 5 (a great many times). Sample items include, “How often does he play games with your head,” “In a loving, joking, or serious way, how often does he use things you’ve said against you, like if you say you made a mistake, how often does he use that against you later,” and “In a loving, joking, or serious way, how often does he tell you the problems in your relationship are your fault.” As the current study assesses the behavior of both men and women, a second version of the SOPAS developed by Imbraguglio (2005) to assess the subtle and overt psychological abuse of men was given to male participants (see Appendix E). This 35-item questionnaire has good internal consistency, with an alpha coefficient of .93 reported by Imbraguglio (2005) and an alpha coefficient of .96 reported by Viggiano (2009).

Procedure

This “bad juice” paradigm was developed by Miller (2003) and uses a bad tasting beverage in place of electric shocks to provoke couples. The juice consists of 4 pints of lemon-lime Gatorade, 4 pints of Sprite, and ¼ cup of Texas Pete hot sauce. This recipe was previously tested on a group of students who rated it an average of 5.08 on a 7-point, Likert-type scale ranging from 1 (“good tasting”) to 7 (“one of the worst things ever tasted”). In this paradigm the amount of juice given to a participant to drink was considered the provocation and the amount a participant poured for his or her partner to drink was considered a measure of aggression. The procedure for this study was modeled from Miller (2003) and validated by Imbraguglio (2005), Link (2007), and Viggiano (2010).
Participants came in as a couple, and each couple was tested separately. Participants were told that the researchers were examining a fictional concept called “intersensory interference,” which was defined as an area of study that involved measuring the influence of one sense on another (see Appendix F for Verbatim Script). Participants were told that they would participate in a study to test the potential effects of taste and touch on visual processing. To further enforce the cover story, participants were told that they were brought in as a couple because the researchers were concerned that the touch of a stranger would cause discomfort and invalidate results of the study. Participants were also asked about any food allergies and every participant signed an informed consent form (see Appendix G) before they began the experiment.

Before separating the couple, the researcher randomly selected one partner to have more power in the paradigm. In this study power was manipulated based on the size of the cup the participant was given to pour juice for their partner. This method of manipulating power by limiting one partner’s ability is similar to studies involving electric shocks, where one partner is given fewer shock settings than his or her partner with more power (Richardson et al., 1986). In the current study, participants in the high power condition had a 12-ounce cup—thus they could pour up to 12 ounces of bad juice for their partner to drink—whereas participants in the low power condition had an 8-ounce cup—thus they could only pour 8 ounces for their partner to drink. The couple was then separated into two rooms to begin the first part of the experiment, testing the “effects of taste on visual processing.” Participants were told that the researchers would be evaluating their performance on 4 different mazes after drinking various amounts of one of two juices. Each participant had a pitcher of the bad tasting juice, a 1-ounce plastic cup, five tin foil covers to place over the juice they pour, the four mazes (face down), an index card to record how much juice they poured for their partner, and small post-it notes with pre-recorded
amounts noted (1oz-12oz) for them to stick on the underside of the tin foil covering so their partner would know how much juice they were given to drink. The participants were told that they would receive one of two beverages: one was mild and the other was tart. They were asked to taste the juice so that they knew which beverage they had, but not to tell the researcher which beverage they received, as the researcher had to remain blind to that condition. All participants were given a pitcher of bad juice, but were told that there were two juices to avoid bias.

After tasting the juice, the participants were instructed to pour juice into one of their 8-or 12-ounce cups (depending on the condition) from their pitcher of juice for their partner to drink. Participants were told to pour as much or as little juice as they would like; they allotted juice by using the 1-ounce cup and filling it up as many times as they wished and depositing it into their larger (8-or 12-ounce) cup. Once they finished allotting juice they recorded how many 1-ounce cups they gave their partner on the index card provided, which was collected at the end of the study. After pouring, participants placed a post-it note with the corresponding number of ounces they poured on the underside of the tin foil covering so when the cover was lifted off the cup, the post-it could be seen. This step was included so that the participants would know how much juice they were given to drink, as identical amounts of liquid appeared different in 8-and 12-ounce cups due to the height difference. They also covered the cup with a tin foil to prevent the researcher from seeing how much juice was in the cup to “avoid bias”. After the researcher collected the juice from one partner, they were asked to wait while the juice that their partner poured for them was retrieved.

While participants were waiting for their juice that their partner allotted for them, the researcher measured and recorded the amount of juice the participant chose to give his or her partner. Then the researcher returned to the participant with a predetermined amount of juice
that was randomly assigned (based on the conditions described below). The participants were instructed to drink the juice that “their partner poured” for them and then complete a puzzle book maze (see Appendix H). In order to enforce the cover story about this visual task, participants were told to complete the maze without lifting their pencil or looking ahead in the maze. They were told their performance would be evaluated based on how far they came to the completion of the task, the number of times they departed from a correct route (the number of errors they made), and the type of departure they took (based on the commonality of the mistake). Participants were given three minutes to work on this visual task. While the first participant worked on the maze the juice was brought to the second participant. Both partners were being tested simultaneous so it was plausible that they were pouring juice for one another. After three minutes the researcher reentered the room of the first participant and gave him or her crackers to “cleanse the palate”. This entire procedure was repeated four more times, for a total of five trials.

Each trial included (a) allotting juice for the partner (the measure of aggression against the partner), (b) drinking juice poured “by the partner” but actually administered by the researcher (the manipulation of provocation), and (c) a filler task, completing a maze. All trials included these three steps except trial 5, which only involved the participant allotting juice for his or her partner as a final measure of aggression. It should be noted that the amount of juice poured in trial 1 represents unprovoked aggression, as participants had not yet received any amount of bad juice to drink from their partners and presumably had not been provoked by their partners before the study began.

There were four provocation conditions in this study, which corresponded to four common patterns of aggression couples may experience in a disagreement. The first condition
was a control or low provocation condition, which represented a consistently low level of aggression from a partner during an argument. Participants in this condition received 1 ounce of bad juice in all four trials. The second condition was increasing provocation where participants received increasing amounts of bad juice (1 ounce, 3 ounces, 5 ounces, and 7 ounces, respectively) on each trial. The increasing provocation condition paralleled a steadily increasing level of aggression from a partner over the course of a dispute, such as those displayed by pit bulls (Jacobson & Gottman, 1998). Participants in the decreasing provocation condition received decreasing amounts of bad juice across trials (7 ounces, 5 ounces, 3 ounces, and 1 ounce, respectively), representing a partner who withdraws over the course of an argument, like cobras (Jacobson & Gottman, 1998). The fourth condition consisted of steady provocation; participants in the high provocation condition received 7 ounces of bad juice on all four trials. This condition characterized a partner who initiates and maintains a high level of aggression throughout the course of an argument.

After pouring the juice for the fifth trial, participants were brought separately into the hallway and placed 20 feet away from an orange cone. Each participant was given a yardstick and told to estimate their distance from the cone in feet. Participants could use the yardstick to help them visualize, but they could not move from their location in the hallway (i.e., they could not measure the distance). After both participants estimated their distance from the cone, both partners were brought into the hallway together and set 20 feet away from each other. Once again they were asked to estimate how many feet they were away from one another and were given the yardstick to estimate their distance. The purpose of this was to test whether anger with an intimate partner could be assessed more implicitly (Stefanucci, 2010). The cone was used as
a control. These distances were also recorded on the index card along with the amount of juice that the participant poured for their partner.

After the participants estimated their distance from each other, they were informed that it was necessary to allow some time before beginning next part of the experiment to be sure that the effects of the beverages would not interfere with the tactile task. While they waited they were asked to complete the Post-Juice Feelings Questionnaire, Background Information Questionnaire, ABIR, ROCI, and SOPAS. The Post-Juice Feelings Questionnaire was administered first, followed by the Background Information questionnaire, and then the remaining three measured were presented in a randomized order. Once both partners had completed these questionnaires, they were debriefed and informed of the true purposes of the study (see Appendix I).

**Results**

The measure of aggression in the current study was the amount of “bad juice” that a participant poured for his or her partner to drink following provocation. Because the amount of juice that participants could pour varied by power conditions, it was necessary to analyze the data in a way that would allow for equivalence across these conditions. Since participants in the Low Power condition could pour between 1-8 ounces of juice, but participants in the High Power condition could pour between 1-12 ounces of juice; results could be affected by the discrepancies in the possible amounts that participants in these power conditions could pour. Because of these concerns, data were analyzed in two forms: (a) as the mean ounces of juice poured, ignoring the difference in available ranges based on different size cups, and (b) as the percentage of juice poured, taking into account what size cup each participant had, in order to assess how much juice participants poured in relation to the size of their cup.
Primary Analyses: Ounces Poured

The first set of analyses were conducted for the mean ounces of juice participants poured for their partners, ignoring the fact that participants were able to pour different amounts of juice for their partner based on the power condition they were assigned to. A 2 (sex) x 2 (power) x 4 (provocation) x 5 (trial) repeated measures analysis of covariance (ANCOVA) was conducted to determine differences in the amount of “bad juice” poured. Couple number was the covariate in order to control for the fact that responses obtained from participants in a couple were not statistically independent from one another. There were no main effects for sex or trial. There was, however, a significant main effect of power, $F(1, 137) = 12.01$, $p < .01$, partial eta-squared $= .08$. Participants in the high power condition ($M = 3.58$, $SD = 1.87$) poured significantly more juice for their partners to drink than participants in the low power condition ($M = 2.79$, $SD = 1.33$).

There was also a significant main effect of provocation, $F(3, 137) = 10.00$, $p < .001$, partial eta-squared $= .18$. A Sidak correction (Field, 2005) was conducted to determine where the differences between the groups were. Participants in the Low Provocation condition ($M = 2.29$, $SD = 1.58$) poured significantly less bad juice than participants in the Increasing Provocation condition ($M = 3.38$, $SD = 1.25$) and participants in the High Provocation condition ($M = 4.01$, $SD = 2.08$). Participants in the Decreasing Provocation condition ($M = 3.06$, $SD = 1.11$) poured significantly less bad juice for their partner than participants in the High Provocation condition ($M = 4.01$, $SD = 2.08$). Participants in the Increasing Provocation condition and Decreasing Provocation condition poured similar amounts of bad juice for their partners to drink. Similarly, participants in the Increasing Provocation condition and High Provocation condition poured similar amounts of bad juice for their partners to drink. Thus,
participants who had the most power poured more juice for their partners to drink. Participants who received the lowest amount of provocation poured the smallest amount of bad juice for their partner, while participants who received the highest level of provocation poured the largest amount of bad juice for their partner to drink.

The main effects for power and provocation were compounded by a significant interaction between these two factors, $F(3, 137) = 5.38, p < .01$, partial eta-squared = .11 (see Table 2). A Sidak correction was used to determine where the differences between the groups were. These post hoc analyses revealed that participants in the High Power condition poured significantly more bad juice for their partner to drink if they were in the High Provocation condition than if they were in the Low Provocation condition, Increasing Provocation condition, or Decreasing Provocation condition. Participants in the Low Provocation condition, Increasing Provocation condition, and Decreasing Provocation conditions poured similar amounts of juice for their partner (see Table 2). Post hoc analyses also revealed that participants in the Low Power condition poured significantly less bad juice for their partner to drink if they were in the Low Provocation condition when compared to participants in the Increasing Provocation Condition, Decreasing Provocation condition, and High Provocation condition. Participants in the Low Power condition who were in the Increasing Provocation condition, Decreasing Provocation condition, or High Provocation condition poured similar amounts of juice for their partner to drink (Table 2).

To summarize the interaction between provocation condition and power condition, participants with more power were most aggressive when they were in the High Provocation condition; however when participants with more power experienced lower levels of provocation, they were less aggressive. Participants with less power were most aggressive when they were in
the Increasing Provocation condition, Decreasing Provocation condition, or High Provocation condition. Participants with less power were only less aggressive when they were in the Low Provocation condition.

There was a significant interaction between sex, power, and provocation, $F(3, 137) = 2.62, p < .05$, partial eta-squared = .05 (see Table 3). A Sidak correction was conducted to detect where the differences between the groups were. These post hoc analyses revealed that male participants in the High Power condition poured significantly more bad juice for their partner to drink if they were in the High Provocation condition than if they were in the Low Provocation condition, Increasing Provocation condition, or Decreasing Provocation condition (see Table 3). Male participants in the High Power condition in the Low Provocation condition, Increasing Provocation condition, or Decreasing Provocation condition poured similar amounts of juice for their partners. There were no significant differences in the amount of bad juice male participants in the Low Power condition poured for their partner across all four provocation conditions.

Analyses also revealed that female participants in the High Power condition poured significantly less juice for their partners in the Low Provocation condition than participants in the Increasing Provocation condition and in the High Provocation condition, but similar amounts to those in the Decreasing Provocation condition. There were no significant differences in the amount of juice poured by female participants in the High Power condition in the Increasing Provocation, Decreasing Provocation, or High Provocation conditions (see Table 3). Female participants in the Low Power condition poured significantly less bad juice for their partner to drink if they were in the Low Provocation condition than if they were in the Increasing Provocation condition, Decreasing Provocation condition, or High Provocation condition.
Female participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation conditions poured similar amounts of juice for their partner (see Table 3).

In this interaction between sex, power, and provocation, male participants with more power were most aggressive when they were in the High Provocation condition and least aggressive in all other provocation conditions. However, male participants with less power displayed similar levels of aggression across all four provocation conditions. Female participants with more power were most aggressive in the High Provocation condition and the Increasing Provocation condition and least aggressive in the Low Provocation condition. Female participants with less power were most aggressive in the Increasing Provocation, Decreasing Provocation condition, and High Provocation condition, and least aggressive in the Low Provocation condition.

The main effect for provocation was qualified by a significant interaction between provocation and trial, $F(12, 548) = 6.04, p < .001$, partial eta-squared = .12 (see Table 4). Post hoc analyses (using the pooled error $MS$ from the main analysis in order to reduce experiment-wise error) revealed that participants in the Low Provocation condition poured significantly more juice on Trial 1 than on Trial 5 [$F(1, 38) = 8.55, p < .01$], Trial 4 [$F(1, 38) = 4.50, p < .05$], and Trial 3 [$F(1, 38) = 5.12, p < .05$]. There were no other significant differences in the amount of bad juice poured for the Low Provocation condition (see Table 4). Participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation condition did not differ significantly in the amount of juice they poured for their partner across the five trials.

This interaction was also compared across provocation conditions for each trial. For Trial 1 there were no significant differences across provocation conditions. For Trial 2, participants in the Low Provocation condition and the Increasing Provocation condition poured
similar amounts of bad juice for their partners, and participants in the Decreasing Provocation condition and High Provocation Condition poured similar amounts of juice for their partners. In Trial 2, participants in the Decreasing Provocation condition and High Provocation condition poured significantly more bad juice than participants in the Low Provocation condition and Increasing Provocation condition. For Trial 3, participants in the High Provocation condition poured significantly more bad juice for their partner to drink than participants in the Low Provocation condition. There were no significant differences in the amount of juice poured between participants in the Low Provocation condition, the Increasing Provocation condition, or the Decreasing Provocation condition. There were also no significant differences in the amount of bad juice poured between participants in the High Provocation condition, the Increasing Provocation condition, or the Decreasing Provocation condition.

In Trial 4, participants in the High Provocation condition and in the Increasing Provocation condition poured significantly more bad juice for their partner than participants in the Low Provocation condition and the Decreasing Provocation condition. Participants in both the Low Provocation condition and the Decreasing Provocation condition poured similar amounts of bad juice for their partners, and participants in the High Provocation condition and the Increasing Provocation condition poured similar amounts of bad juice for their partners. For Trial 5, participants in the High Provocation condition and Increasing Provocation condition poured significantly more bad juice for their partner to drink than participants in the Low Provocation condition and Decreasing Provocation condition. Participants in the Low Provocation condition and Decreasing Provocation condition did not differ significantly in the amount of juice they poured for their partner, and participants in the Increasing Provocation condition and Decreasing Provocation condition...
condition and High Provocation condition did not differ significantly in the amount of juice they poured for their partner.

The interaction between provocation condition and trial number was analyzed across each provocation condition and across each trial. For comparisons across provocation conditions, participants in the Low Provocation condition were more aggressive on Trial 1, before they were provoked, than they were on Trial 3, Trial 4, and Trial 5. Across the remaining three provocation conditions participants did not respond differently in the amount of juice they poured for their partner from one trial to the next. When comparing ounces poured across trials, participants did not differ in any condition in Trial 1 however in Trial 2, participants were the most aggressive facing increasing and high provocation, and participants were the least aggressive when facing decreasing or low provocation. For Trial 3, participants were most aggressive when facing high provocation and least aggressive when facing low provocation. For Trial 4 and Trial 5, participants were most aggressive when facing high and increasing provocation and participants were least aggressive when faced with low and decreasing provocation.

Finally, the main effects of power and provocation were compounded a marginally significant interaction between trial, sex, power, and provocation, $F(12, 548) = 7.03, p = .12$, partial eta-squared = .03 (See Table 5). Results were analyzed by examining males and females in both High Power and Low Power conditions separately. Post hoc analyses were first conducted for each provocation condition, across all five trials. Next, post hoc analyses were conducted across provocation conditions, for each trial.

Males: High Power Condition. For male participants in the High Power condition, there were no significant differences in the amount of bad juice participants poured across trials
for any of the four provocation conditions. Post hoc analyses across provocation conditions for each trial revealed several significant differences for males in the High Power condition. For Trial 1 and Trial 3 there were no significant differences between provocation conditions. For Trial 2, participants in the High Provocation condition poured significantly more juice for their partners to drink than participants in the Low Provocation condition, Increasing Provocation condition, and Decreasing Provocation condition. In Trial 4, participants in the High Provocation condition poured significantly more bad juice for their partners than participants in the Low Provocation condition and the Increasing Provocation condition. Participants in the Decreasing Provocation condition poured similar amounts of bad juice to participants in all other provocation conditions for Trial 4. For Trial 5, participants in the High Provocation condition poured significantly more bad juice than participants in the Low Provocation condition. Participants in the Increasing Provocation condition and Decreasing Provocation condition poured similar amounts of bad juice to participants in the Low Provocation condition and High Provocation condition.

**Males: Low Power Condition.** For male participants in the Low Power condition there were no significant differences in the amount of bad juice participants poured across trials for any of the four provocation conditions. Post hoc analyses across provocation conditions revealed no significant differences in any of the five trials. Male participants in the low power condition poured similar amounts of bad juice for their partner to drink on each trial, regardless of the provocation condition they were in.

**Females: High Power Condition.** For female participants in the High Power condition there were no significant differences in the amount of bad juice participants poured across trials for any of the four provocation conditions. Post hoc analyses across provocation conditions for
each trial revealed there were no significant differences in the amount of juice poured between provocations for Trial 1, Trial 2, Trial 3, and Trial 4. For Trial 5, participants in the Increasing Provocation condition poured significantly more bad juice for their partners than participants in the Low Provocation condition, Decreasing Provocation condition, and High Provocation condition.

**Females: Low Power Condition.** For female participants in the Low Power condition there were no significant differences in the amount of bad juice participants poured across trials for any of the four provocation conditions. Post hoc analyses across provocation conditions for each trial revealed there were no significant differences in the amount of juice poured between provocations for Trial 1 and Trial 4. For Trial 2, participants in the Decreasing Provocation condition and High Provocation condition poured significantly more bad juice for their partners than participants in the Low Provocation condition and Increasing Provocation condition. In Trial 3, participants in the Decreasing Provocation condition poured significantly more bad juice for their partners than participants in the Low Provocation condition. Participants in the Increasing Provocation condition and High Provocation condition poured similar amounts of juice to each other, as well as to participants in the Low Provocation condition and the Decreasing Provocation condition. For Trial 5, participants in the High Provocation condition poured significantly more bad juice for their partner to drink than participants in the Low Provocation condition. Participants in the Increasing Provocation condition and Decreasing Provocation condition poured similar amounts of juice for their partner to drink, and did not pour a significantly different amount of juice than participants in the Low Provocation condition or High Provocation condition.
Summary of Trial x Sex x Power x Provocation Interaction. For males in the High Power condition, the only significant differences that emerged were in the amount of juice poured in Trial 2, Trial 4, and Trial 5. In these trials, males in the High Provocation condition poured significantly more bad juice than any of the other males in the High Power condition. There were no significant differences among the males in the Low Power condition. High Power women who were faced with Increasing Provocation poured more juice on Trial 5 than all the other High Power women. For females in the Low Power condition the only significant differences that emerged were in the amount of juice poured in Trial 2, Trial 3, and Trial 5. In Trial 2 and Trial 3, participants in the Decreasing Provocation condition poured more juice than participants in the Low Provocation condition. In Trial 2 and Trial 5 participants in the High Provocation poured significantly more juice than participants in the Low Provocation condition. In Trial 2, Trial 3, and Trial 5, participants in the Increasing Provocation condition poured amounts of juice that fell in between the amounts poured by participants in the Low Provocation condition, and the High Provocation condition or Decreasing Provocation condition.

Primary Analyses: Percentage Poured

This second set of analyses were conducted for the percentage of juice participants poured for their partners, in order to account for the difference in cup size between the two power conditions. Instead of analyzing the mean ounces of juice participants poured, which would be affected by the power condition a participant was assigned to, this set of analyses considers the amount of juice a participant poured in relation to the size of their cup. Another 2 (sex) x 2 (power) x 4 (provocation) x 5 (trial) repeated measures ANCOVA was conducted to determine differences in the percentage of “bad juice” poured. Once again, couple number was the covariate in order to control for the fact that partners were not statistically independent from
one another. As with mean ounces poured, there were no significant effects for sex of participant or trial. Consistent with analyses for the ounces poured, there was a significant main effect of power, $F(1, 137) = 4.60, p < .05$, partial eta-squared = .03. However, differing from these results for the mean ounces poured, participants in the low power condition ($M% = .35, SD = .17$) poured a significantly greater percentage of juice than participants in the high power condition ($M% = .30, SD = .16$). Once again consistent with analyses for the ounces poured there was also a significant main effect of provocation, $F(3, 137) = 8.62, p < .001$, partial eta-squared = .16. A Sidak analysis was conducted to determine where the differences between groups were. These results were identical to those for the mean ounces of juice poured, except for the Decreasing Provocation condition; participants poured significantly more bad juice for their partners in the High Provocation condition than they did in the Decreasing Provocation condition, but participants did not differ in the percentage of juice they poured for their partner in these conditions. Participants in the Low Provocation condition ($M% = .23, SD = .15$) poured a significantly lower percentage of bad juice for their partner to drink than participants in the Increasing Provocation condition ($M% = .35, SD = .15$) and participants in the High Provocation condition ($M% = .39, SD = .17$). There were no significant differences between the percentage of juice that participants in the Low Provocation condition poured ($M% = .23, SD = .15$) and the percentage of juice that participants in the Decreasing Provocation condition ($M% = .32, SD = .14$) poured. There were also no significant differences between the percentage of juice poured by participants in the Decreasing Provocation condition, Increasing Provocation condition, and High Provocation condition.

Thus, participants who had the most power poured a lower percentage of juice for their partners to drink. Participants who received were provoked the least poured a lower percentage
of bad juice for their partner. Finally, participants who were most provoked poured the highest percentage of bad juice for their partner to drink.

Consistent with analyses for the ounces poured, the main effects for power and provocation were qualified by a significant interaction between these two factors, $F(3, 137) = 4.05, p < .01$, partial eta-squared = .08. Table 6 presents this interaction. A Sidak correction was performed to determine where the differences between the groups were. This analysis revealed that participants in the High Power condition poured a significantly higher percentage of bad juice for their partner to drink if they were in the High Provocation condition than if they were in the Low Provocation condition, Increasing Provocation condition, or Decreasing Provocation condition. Participants in the Low Provocation condition, Increasing Provocation condition, and Decreasing Provocation conditions poured similar percentages of juice for their partner (see Table 6). Participants in the Low Power condition poured significantly lower percentages of bad juice for their partner to drink if they were in the Low Provocation condition when compared to participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation condition. Participants in the Low Power condition who were also in the Increasing Provocation condition, Decreasing Provocation condition, or High Provocation condition poured similar percentages of juice for their partner to drink (Table 6).

The results of this interaction between provocation condition and power condition for the percentage of juice poured were identical to previous analyses for the mean ounces poured. Participants with more power were most aggressive when they were in the High Provocation condition, however when participants with more power experienced lower levels of provocation they were less aggressive in the percentage of bad juice they poured for their partner. Participants with less power were most aggressive when they were in the Increasing Provocation
condition, Decreasing Provocation condition, or High Provocation condition. Participants with less power were only less aggressive when they were in the Low Provocation condition.

Again, consistent with analyses for the ounces poured, there was a marginally significant interaction between sex, power, and provocation, $F(3, 137) = 2.18, p = .09$, partial eta-squared = .05. A Sidak correction was carried out to determine where the differences between the groups were. These post hoc analyses revealed that male participants in the High Power condition poured a significantly larger percentage of bad juice for their partner to drink if they were in the High Provocation condition than if they were in the Low Provocation condition, Increasing Provocation condition, or Decreasing Provocation condition. Male participants in the Low Provocation condition, Increasing Provocation condition, and Decreasing Provocation conditions poured similar percentages of juice for their partner (see Table 7). There was no significant difference in the percentage of bad juice male participants in the Low Power condition poured for their partner across all four provocation conditions.

Analyses also revealed female participants in the High Power condition poured a significantly lower percentage of bad juice for their partners to drink when they were in the Low Provocation, compared to female participants in the High Power condition in the Increasing Provocation and High Provocation conditions; there were no significant differences for participants in the Decreasing Provocation condition. There were no significant differences in the percentage of juice poured by female participants in the high Power condition in the Increasing Provocation, Decreasing Provocation, or high Provocation conditions (see Table 7). Female participants in the Low Power condition poured a significantly lower percentage of juice for their partner to drink when they were in the Low Provocation condition than when they were in the Increasing Provocation condition, Decreasing Provocation condition, or High Provocation condition.
condition. Female participants in the Low Power condition in the Increasing Provocation, Decreasing Provocation, and High Provocation conditions poured similar percentages of juice for their partner to drink (see Table 7).

Once again, these analyses for the interaction between sex, power, and provocation for the percentage of juice poured matched the analyses for the mean ounces of juice poured. Male participants with more power were most aggressive when they were in the High Provocation condition and least aggressive in all other provocation conditions. However, male participants with less power displayed similar levels of aggression across all four provocation conditions. Female participants with more power were most aggressive in the High Provocation condition and the Increasing Provocation condition and least aggressive in the Low Provocation condition. Female participants with less power were most aggressive in the Increasing Provocation, Decreasing Provocation condition, and High Provocation condition, and least aggressive in the Low Provocation condition.

Consistent with analyses for the ounces poured, the main effect for provocation was subsumed by a significant interaction between provocation and trial, $F(12, 548) = 6.06, p < .001$, partial eta-squared = .12 (see Table 8). Post hoc analyses revealed that participants in the Low Provocation condition poured a significantly greater percentage of juice on Trial 1 than on Trial 5 [$F(1, 38) = 8.40, p < .01$], Trial 4 [$F(1, 38) = 5.20, p < .05$], Trial 3 [$F(1, 38) = 5.80, p < .05$], and on Trial 2 [$F(1, 38) = 4.20, p < .05$]. There were no other significant differences in the percentage of bad juice poured for the Low Provocation condition (see Table 4). Participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation condition did not differ significantly in the percentage of juice they poured for their partner across the five trials.
This interaction between provocation condition and trial was also compared across provocation conditions for each trial. For Trial 1 there were no significant differences across provocation conditions. For Trial 2, participants in the Low Provocation condition and the Increasing Provocation condition poured similar percentages of bad juice for their partners, and participants in the Decreasing Provocation condition and High Provocation Condition poured similar percentages of juice for their partners. In Trial 2, participants in the Decreasing Provocation condition and High Provocation condition poured a significantly greater percentage of bad juice than participants in the Low Provocation condition and Increasing Provocation condition. For Trial 3, participants in the High Provocation condition poured a significantly larger percentage of bad juice for their partners to drink than participants in the Low Provocation condition. There were no significant differences in the percentage of juice poured between participants in the Low Provocation condition, the Increasing Provocation condition, or the Decreasing Provocation condition. There were also no significant differences in the percentage of bad juice poured between participants in the High Provocation condition, the Increasing Provocation condition, or the Decreasing Provocation condition.

In Trial 4, participants in the High Provocation condition and in the Increasing Provocation condition poured a significantly greater percentage of bad juice for their partner than participants in the Low Provocation condition. Participants in both the Low Provocation condition and the Decreasing Provocation condition poured similar percentages of bad juice for their partners, and participants in the High Provocation condition, the Increasing Provocation condition, and the Decreasing Provocation condition poured similar percentages of bad juice for their partners. For Trial 5, participants in the High Provocation condition and Increasing Provocation condition poured a significantly greater percentage of bad juice for their partner to
drink than participants in the Low Provocation condition. Participants in the Low Provocation condition and Decreasing Provocation condition did not differ significantly in the percentage of juice they poured for their partner, participants in the Increasing Provocation condition and High Provocation condition did not differ significantly in the percentage of juice they poured for their partner, and participants in the Decreasing Provocation condition and High Provocation condition did not differ significantly in the percentage of bad juice they poured for their partners.

The interaction between provocation condition and trial number was analyzed across each provocation condition and across each trial. For comparisons across provocation conditions, participants in the Low Provocation condition were more aggressive on Trial 1, before they were provoked, than they were on Trial 2, Trial 3, Trial 4, and Trial 5. Across the remaining three provocation conditions participants did not respond differently in the percentage of juice they poured for their partner from one trial to the next. When comparing ounces poured across trials, participants did not differ in any condition in Trial 1, however in Trial 2 participants were the most aggressive when in the Decreasing Provocation condition or High Provocation condition, participants were the least aggressive when in the Increasing Provocation condition or Low Provocation condition. For Trial 3, participants were most aggressive in the High Provocation condition and least aggressive in the Low Provocation condition. For Trial 4 participants were most aggressive in the High Provocation condition and the Increasing Provocation condition; participants were least aggressive in the Low Provocation condition. For Trial 5 participants were most aggressive in the Increasing Provocation condition and least aggressive in the Low Provocation condition.

Finally, the main effects of power and provocation were compounded a marginally significant interaction between trial, sex, power, and provocation, $F(12, 548) = 1.62, p = .08,$
partial eta-squared = .03, consistent with analyses for the ounces poured (See Table 9). Results were analyzed by examining males and females in both High Power and Low Power conditions separately. Post hoc analyses were first conducted for each provocation condition, across all five trials. Next, post hoc analyses were conducted across provocation conditions, for each trial.

**Males: High Power Condition.** For male participants in the High Power condition there were no significant differences in the percentage of bad juice participants poured across trials for any of the four provocation conditions. Post hoc analyses across provocation conditions for each trial revealed there were no significant differences in the percentage of juice poured between provocation conditions for Trial 1 and Trial 3. For Trial 2, participants in the High Provocation condition poured a significantly larger percentage of bad juice for their partners to drink than participants in the Low Provocation condition, the Increasing Provocation condition, and the Decreasing Provocation condition. In Trial 4, participants in the High Provocation condition poured a significantly larger percentage of bad juice for their partners than participants in the Low Provocation condition and participants in the Increasing Provocation condition. Participants in the Decreasing Provocation condition poured a similar percentage of bad juice to participants in both the High Provocation condition, as well as the Low Provocation condition and Increasing Provocation condition. In Trial 5, participants in the High Provocation condition poured a significantly higher percentage of bad juice than participants in the Low Provocation condition. Participants in the Increasing Provocation condition and the Decreasing Provocation condition poured similar percentages of bad juice, and poured similar percentages to participants in both the Low Provocation condition and the High Provocation condition.

**Males: Low Power Condition.** For male participants in the Low Power condition, significant differences emerged in the Low Provocation condition, where participants poured a
significantly greater percentage of bad juice for their partners on Trial 1 than they poured on Trial 2 \(F(1, 8) = 6.40, p < .05\), Trial 3 \(F(1, 8) = 8.20, p < .05\), Trial 4 \(F(1, 8) = 6.20, p < .05\), and Trial 5 \(F(1, 8) = 6.20, p < .05\). There were no other significant differences in the percentage of bad juice participants poured across trials for any of the remaining three provocation conditions. Post hoc analyses for each trial revealed there were no significant differences in the percentage of juice poured across provocation conditions. Male participants in the low power condition poured similar percentages of bad juice for their partner to drink on each trial, regardless of the provocation condition they were in.

**Females: High Power Condition.** For female participants in the High Power condition there were no significant differences in the percentage of bad juice participants poured across trials for any of the four provocation conditions. Post hoc analyses across provocation conditions for each trial revealed there were no significant differences in the percentage of juice poured between provocation conditions for Trial 1, Trial 2, Trial 3, and Trial 4. For Trial 5, participants in the Increasing Provocation condition poured a significantly greater percentage of juice for their partners to drink than participants in the Low Power condition, participants in the Decreasing Power condition, and participants in the High Power condition.

**Females: Low Power Condition.** When comparing the percentage of juice poured across trials for each provocation condition, female participants in the Low Power condition did not differ significantly in the percentage of juice they poured on each trial in the Low Provocation condition or the Increasing Provocation condition. In the Decreasing Provocation condition, participants poured a greater percentage of bad juice for their partners to drink on Trial 2 than on Trial 4 \(F(1, 8) = 5.60, p < .05\). Again, in the Decreasing Provocation condition, participants poured a greater percentage of bad juice for their partners on Trial 3 than on Trial 4.
There were no other differences in the percentage of juice poured for the Decreasing Provocation condition. Participants in the High Provocation condition poured a greater percentage of bad juice for their partners to drink on Trial 5 than on Trial 3 \( F(1, 8) = 6.20, p < .05 \). There were no other significant differences across trials for females in the low power condition.

Post hoc analyses across provocation conditions for each trial revealed there were no significant differences in the percentage of juice poured for Trial 1 or for Trial 4. For Trial 2, participants in the Decreasing Provocation condition poured a significantly greater percentage of bad juice for their partners than participants in the Low Provocation condition or Increasing Provocation condition. Participants in the High Provocation condition did not differ from those in the Decreasing Provocation condition, the Low Provocation condition, or the Increasing Provocation condition in the percentage of juice they poured for their partners. On Trial 3, participants in the Decreasing Provocation condition poured a significantly higher percentage of bad juice than participants in the Low Provocation condition. Participants in the Increasing Provocation condition and the Decreasing Provocation condition poured similar percentages of juice to one another, as well as to participants in both the Decreasing Provocation condition and the Low Provocation condition. On Trial 5, participants in the High Power condition poured a significantly greater percentage of bad juice for their partners than participants in the Low Power condition. Participants in the Increasing Provocation condition poured a similar percentage of bad juice to participants in the Decreasing Provocation condition; participants in both of these provocation conditions did not differ significantly in the percentage of bad juice that they poured from participants in the Low Provocation condition and High Provocation condition.
Summary of Trial x Sex x Power x Provocation Interaction. For males in the High Power condition the only significant differences that emerged were in the percentage of juice poured in Trial 2, Trial 4, and Trial 5. In these trials, males in the High Provocation condition poured significantly higher percentages of bad juice than any of the other males in the High Power condition. For male participants in the Low Power condition, significant differences emerged in the Low Provocation condition where participants poured a significantly greater percentage of bad juice for their partners on Trial 1 than they did on the other 4 trials. There were no other significant differences for men in the low power condition. High Power women who were faced with Increasing Provocation poured a greater percentage of juice on Trial 5 than all the other High Power women. For females in the Low Power condition, participants poured the highest percentages of juice on Trial 2 and Trial 3 when they received decreasing provocation. Participants who received the highest level of provocation poured a higher percentage of bad juice for their partners on Trial 5 then they poured on Trial 3. For females in the Low Power condition the only significant differences that emerged across provocation condition were in the percentage of juice poured in Trial 2, Trial 3, and Trial 5. In Trial 2 and Trial 3 participants in the Decreasing Provocation condition poured a higher percentage of juice than participants in the Low Provocation condition. In Trial 2 and Trial 5 participants in the High Provocation poured a significantly higher percentage of juice than participants in the Low Provocation condition. In Trial 2, Trial 3, and Trial 5, participants in the Increasing Provocation condition poured percentages of juice that fell in between the percentages poured by participants in the Low Provocation condition, and the High Provocation condition or Decreasing Provocation condition.
Predicting Trial 1 Behavior

A Pearson’s Correlation test was conducted to determine the relationship between a participant’s score on the ROCI, SOPAS, and ABIR questionnaires and the amount of juice he or she poured on the first trial. These correlations were computed because Trial 1 is considered a weak situation, in which behavior is more likely to be defined by personality. The correlations between the questionnaire scores and first trial pour determine if the participant’s aggressive personality characteristics were consistent with their behavior, before they were provoked. In these analyses, couple number was partialed out to control for the fact that data for individuals were not statistically independent from their partner’s data. Surprisingly, none of the correlations between a participant’s score on any of the questionnaires and the mean amount of juice he or she poured in Trial 1 were significant. Another set of Pearson’s Correlation tests were conducted to determine the relationship between a participant’s score on the questionnaires and the percentage of juice he or she poured on the first trial, based on the percentage of the cup the participant filled. These tests revealed that participants who reported using dominating conflict management tactics poured filled a greater percentage of their cup on Trial 1 than participants who did not, $r(154) = .168, p < .05$. This was the only significant correlation in predicting Trial 1 behavior.

Feelings Toward Partner

A series of 2 (sex) x 2 (power) x 4 (provocation) univariate ANCOVAs were performed to determine if a participant’s feelings toward his or her partner after the final trial varied as a function of provocation and/or power condition. Once again, couple number was used as the covariate to control for the fact that responses obtained from participants in a couple were not statistically independent from one another. These analyses were conducted for participants’
ratings of how much they like, loved, and trusted their partner after being provoked, as well as how pleased they were, how wronged they felt, and how angry they felt. There were no significant main effects or interaction effects for sex. There were, however, several main effects and interaction effects for provocation condition and power condition.

There was a significant main effect of provocation condition for a participants reported liking of their partner after provocation, $F(3, 137) = 6.42, \ p < .001$, partial eta-squared = .12. A Sidak correction was used to determine where the differences were between groups. Participants in the Low Provocation condition reported liking their partners significantly more than participants in the Increasing Provocation condition, participants in the Decreasing Provocation condition, and participants in the High Provocation condition after being provoked (see Table 10). Participants in the Increasing Provocation condition, the Decreasing Provocation condition, and the High Provocation condition reported similar levels of liking for their partners following provocation.

There was also a significant main effect of provocation condition for a participant’s rating of how pleased they were with his or her partner, $F(3, 137) = 13.85, \ p < .001$, partial eta-squared = .23. A Sidak analysis revealed that participants in the Low Provocation condition reported feeling significantly more pleased with their partners following provocation than participants in the Increasing Provocation condition, participants in the Decreasing Provocation condition, and participants in the High Provocation condition (see Table 10). Participants’ ratings of how pleased they were with their partner did not vary significantly between those in the Increasing Provocation condition, the Decreasing Provocation condition, and those in the High Provocation condition.
A significant main effect of provocation was also found for participants’ ratings of how much they trusted their partners following provocation, $F(3, 137) = 6.00$, $p < .01$, partial eta-squared = .12. A Sidak correction was used to show where the differences were between the provocation conditions. Participants in the Low Provocation condition reported trusting their partners significantly more than participants in the Increasing Provocation condition, the Decreasing Provocation condition, and the High Provocation condition (see Table 10). There were no significant differences in participants’ reported levels of how much they trust their partner following provocation in the Increasing Provocation condition, Decreasing Provocation condition, or High Provocation condition.

There was a significant main effect of provocation condition for participants ratings of how wronged they felt by their partners, $F(3, 137) = 8.85$, $p < .001$, partial eta-squared = .16. A Sidak analysis revealed that participants in the Low Provocation condition reported feeling less wronged by their partners directly after provocation than participants in the Increasing Provocation condition, participants in the Decreasing Provocation condition, and participants in the High Provocation condition (see Table 10). Participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation condition reported similar levels of feeling wronged by their partner.

Finally, there was a significant main effect of provocation for participants’ ratings of how angry they were at their partners following provocation, $F(3, 137) = 9.82$, $p < .001$, partial eta-squared = .18. A Sidak analysis revealed that participants in the Low Provocation condition reported feeling less anger towards their partners than participants in the Increasing Provocation condition, participants in the Decreasing Provocation condition, and participants in the High Provocation condition (see Table 10). There were no significant differences between
participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation condition in their reported levels anger toward their partner following provocation. This main effect of provocation was also qualified by a significant interaction between sex and provocation condition, $F(3, 137) = 4.75, p < .05$, partial eta-squared = .09. A Sidak correction was used to determine where the differences where between groups. Male participants in the Low Provocation condition and the Increasing Provocation condition reported feeling significantly less anger towards their partners following provocation than participants in the Decreasing Provocation condition and High Provocation condition (see Table 11). There were no significant differences between male participants’ rating of anger towards their partner in the Low Provocation condition and those in the Increasing Provocation condition. Similarly, male participants in the Decreasing Provocation condition and the High Provocation condition reported similar levels of anger towards their partner. Post hoc analyses also revealed that female participants in the Low Provocation condition reported feeling significantly less anger towards their partners following provocation than participants in the Increasing Provocation condition and participants in the High Provocation condition (see Table 11). There were no significant differences between female participants’ report on how angry they were with their partners in the Low Provocation condition and Decreasing Provocation condition. Female participants in the Increasing Provocation condition, Decreasing Provocation condition, and High Provocation condition all reported similar levels of anger towards their partner following provocation.

Participants’ reports of love for their partner were qualified by a significant interaction between sex, power, and provocation, $F(3, 137) = 3.36, p < .05$, partial eta-squared = .07 (see Table 12). A Sidak correction was conducted to determine where the differences where between
each group. Post hoc analyses revealed that all participants reported feeling similar levels of love towards their partner, regardless of sex or provocation condition. Though these analyses revealed no significant differences between groups, it seems that male participants in the High Power condition reported feeling higher levels of love for their partners when they were in the Low Provocation condition or Increasing Provocation condition, than when they were in the Decreasing Provocation condition or High Provocation condition. Male participants in the Low Power condition reported generally the same level of love for their partners across all four provocation conditions. Post hoc analyses also revealed no significant differences for women, however in order to explain the significant interaction results are interpreted based on trends (see Table 12). Female participants in the High Power condition seemed to report feeling the lowest amount of love for their partner in the Increasing Provocation condition, while participants in the Low Provocation condition and Decreasing Provocation condition reported higher, similar levels of love for their partners. Female participants in the High Power condition seemed to report feeling the lowest amount of love for their partners in the Increasing Provocation condition and the highest amounts of love for the partners in the Low Provocation condition, the Decreasing Provocation condition, and the High Provocation condition. Female participants in the Low Power condition seemed to report loving their partner the least when they were in the Decreasing Provocation condition and loving their partner the most when they were in the Low Provocation condition and Increasing Provocation Condition. Participants in the High Provocation condition seemed to report similar levels of love for their partners as participants in the Low Provocation condition, participants in the Increasing provocation condition, and participants in the Decreasing Provocation condition.
Perceived Distance from Partner

A 2 (sex) x 2 (power) x 4 (provocation) univariate analysis of variance (ANOVA) was conducted to determine if a participant’s sex, power condition, or provocation condition affected his or her estimated distance from their partner. In order to conduct this analysis, a difference score was taken, subtracting the participant’s estimated distance from the cone from the participant’s estimated distance from their partner. This measure was used as the dependent variable in the univariate ANOVA to assess distance. There were no significant main effects or interaction effects for a participant’s perceived distance his or her partner.

Discussion

The purpose of this study was to examine aggression in romantic couples exposed to different power dynamics and different patterns of provocation. The power dynamics were represented based on two sizes of cups; one partner was given a bigger (12oz) cup, and the other partner was given a smaller (8oz) cup to pour the “bad juice” into. The patterns of provocation were represented by four conditions: Low Provocation, Increasing Provocation, Decreasing Provocation, and High Provocation. Aggression was measured by the amount of “bad juice” participants chose for their partners. Participants’ aggressive behavior was assessed across five trials. Conflict management strategies and self-reports of past behaviors were used to predict participants’ unprovoked aggressive behavior. Based on previous studies and literature it was hypothesized that: (a) participants who received higher amounts of provocation would respond with higher levels of aggression, (b) participants in the Low Power condition would retaliate with higher levels of aggression than participants in the High Power condition, and (c) that this effect would be more apparent in male participants.
Overall, participants were found to respond in kind to the provocation they received. Men and women displayed similar levels of aggressive behavior, though some significant differences emerged in interaction effects. Participants with more power poured more juice than participants with less power; however participants with less power poured a greater percentage of juice than those with more power. Between provocation conditions, every trial provided significant differences in aggressive responses, with the exception of the Trial 1, the only trial of unprovoked aggression.

**Overall Comparison of Provocation Conditions**

Analyses for both the mean ounces poured and percentage of juice participants poured were consistent with the first hypothesis; participants reciprocated the amount of aggression they received. Participants who received the lowest level of provocation poured less juice, and the lowest percentage of juice, than all other conditions. Participants in the High Provocation condition poured more juice, and the highest percentage of juice, than participants in all other conditions. Participants in the Decreasing Provocation condition and Increasing Provocation condition poured similar amounts and percentages of juice for their partners, as they received identical total amounts of juice. These results supported the hypothesis that participants who highly provoked would retaliate against their partners with a higher level of aggression than participants who were less provoked.

**Overall Comparison of Power Conditions**

Analyses of the mean ounces of juice participants poured for their partners revealed that participants who had more power poured more juice for their partners to drink, whereas participants in the Low Power condition poured less juice for their partner to drink. Thus, when only taking into account the number of ounces that participants poured for their partner to drink,
the second hypothesis is not consistent with the findings. The most probable explanation for why participants in the High Power condition poured more bad juice than participants in the Low Power condition is that participants with more power had a larger cup, which could physically hold up to four ounces more juice on each trial. Thus they were able to pour more juice. In order to account for this inequality, the data were also analyzed based on the percentage of juice that participants poured, that is, how much of their cup did they fill. Analyses of the percentage of juice participants poured, showed that participants who had the most power poured a lower percentage of juice for their partners to drink than participants who had less power. In other words, those with less power used proportionately more of the power they did have. This confirms the hypothesis that participants with less power retaliate against their partners with higher levels of aggression than participants who had more power.

Contrary to the third hypothesis, this effect was not more prominent in males, as there was no effect of sex or interaction between sex and power. This finding is consistent with previous studies and the literature. Imbraguglio (2005), Link (2007), and Viggiano (2010) all conducted similar behavioral studies examining aggression in close relationships and found no significant effects of gender. Furthermore, previous literature suggests that males and females both aggress against their significant other, but the types of aggression men and women use may be different (Archer, 2000; Capaldi & Owen, 2001; Straus, Gelles, & Steinmetz, 1980; Kwong, Bartholomew, & Dutton, 1999). Thus, there may not be a significant effect of sex in this study due to the fact that participants only had one means of aggression available to them. If participants were given alternative options in how they aggress against their partner, potentially involving verbal or psychological aggression rather than only pouring juice (a physical response), a significant main effect of sex may emerge in participant responses. A small sample
size may have also had an effect; perhaps with more participants a significant interaction between power condition and sex may emerge.

**Overall Comparison of Power x Provocation**

Participants with more power were more aggressive when they received high levels of provocation than participants in the High Power condition in any other provocation condition. Conversely, participants in the Low Power condition who experienced low levels of provocation responded with less retaliatory aggression towards their partner than low power participants in all other provocation conditions. These results were identical for both the mean ounces of juice poured and the percentage of juice that participants poured for their partners. This interaction between power condition and provocation condition supports a notion that in a situation where there is an uneven distribution of power in a romantic relationship, partners will respond differently to provocation. If one member of a romantic relationship has more power or control in the relationship than his or her partner, he or she would be more likely to retaliate aggressively against his or her partner only in response to high levels of aggravation, but not in response to lower levels of provocation. If one partner has less power than his or her partner in the relationship, then he or she will be more likely to aggress against his or her partner in response to any moderate to high amount of provocation. This is consistent with the hypothesis that when one member of a romantic relationship feels like they have less power, they are more likely to retaliate aggressively in response to provocation from their partner.

**Overall Comparison of Sex x Power x Provocation**

For the interaction between sex, power, and provocation, male participants with more power were more aggressive when they were in the High Provocation condition than they were in all other provocation conditions; however male participants with less power revealed no
significant differences between provocation conditions. Female participants with more power were most aggressive when faced with high and increasing provocation, and least aggressive when faced with low provocation. Female participants with less power were only less aggressive when faced with low provocation. These effects were the same for the mean amount of juice poured as well as for the percentage of juice poured by participants. Thus, for male participants the hypothesis that participants with less power will retaliate with more aggression was not supported. These findings suggest that if a male has more power in a romantic relationship than his partner, he would be more likely to retaliate aggressively against his partner only in response to high levels of aggravation, but not in response to lower levels of provocation. Contrary to the second hypothesis, no effects were found for low power male participants between provocation conditions; thus it appears that men who have less power in their romantic relationships do not respond more aggressively to provocation. Possible explanations for this finding include a small sample size that may not provide enough power to achieve significance, participants may not perceive a power discrepancy in the size cup they are given, or there may be no effect for this group. Interestingly, females in the low power condition supported the hypothesis that if a partner has less power in the relationship he or she will retaliate more aggressively against his or her partner. The results indicate that if a female partner has less power than her partner in the relationship, then she will be more likely to aggress against her partner in response to any moderate to high amount of provocation. This has interesting implications because aggression literature has consistently shown that women are more likely to use verbal and psychological aggression, as well as mild forms of physical aggression against their partners (Archer, 2002; Joireman, Anderson, & Strathman, 2003; Frieze, 2005b). Thus the type of aggression women
use when retaliating against their significant other with more power may be different than they type of aggression that men would use.

**Overall Comparison of Provocation x Trial**

For the interaction between provocation condition and trial, the only significant difference across trials was for participants in the Low Provocation condition. Participants poured more juice, as well as a higher percentage of juice, for their partner on Trial 1, then they did on later trials. This is most likely due to the fact that participants in the Low Provocation condition received very small amounts of juice to drink; thus on later trials they responded to the amount they were given and poured less then they had originally poured on Trial 1. Based on trends in other provocation conditions, however, participants were quick to respond to increases in the amount of provocation across trials, yet slower to respond to decreases in the amount of provocation. Generally, when participants received an increase in the amount of juice they were given they were more likely to pour more juice for their partner on the next trial, that is retaliate with a higher level of aggression on the next trial. When participants received a decrease in the amount of juice they were given, however, they waited a few trials before they poured a smaller amount of juice for their partner; that is, they waited before responding with a lower level of aggression.

When analyzing the amounts and percentage of juice poured across provocation conditions, there was no difference on Trial 1, which was consistent with expectations as this trial represented unprovoked aggression. On Trials 2-5 participants faced with higher levels of provocation responded with higher levels of aggression than participants faced with lower levels of provocation. On Trial 2, participants in the Decreasing and High Provocation conditions poured the most juice for their partners, compared to participants in the Increasing and Low
Provocation conditions. It was expected that participants in the Decreasing Provocation condition and High Provocation condition would respond most aggressively, because participants in these groups received the highest level of provocation (7 ounces of bad juice). Similarly, participants in the Low Provocation condition and the Increasing Provocation condition received the lowest level of provocation on Trial 2 (1 ounce of bad juice), so it was expected that they would respond least aggressively. On Trial 3, participants in the High Provocation condition poured the most juice for their partners to drink. Participants in this group received the highest level of provocation so it follows that they were also the ones to retaliate with the highest levels of aggression. Participants in the Low Provocation condition responded the least aggressively, which was expected as these participants received the lowest levels of provocation. Participants in both the Increasing Provocation condition and Decreasing Provocation condition responded with similar amounts of aggression on Trial 3. This was expected, as participants in these two conditions received similar levels of provocation and did not receive either the highest or the lowest level of provocation on this trial. In Trials 4 and 5, participants in the Increasing Provocation condition and High Provocation condition poured the most juice for their partners. Again, this was expected because participants in these conditions received the highest levels of provocation. As participants in the Increasing Provocation condition responded more aggressively on Trial 4 and Trial 5, this follows the trend that participants respond quickly to increases in provocation. Participants in the Low Provocation condition and Decreasing Provocation conditions responded with the lowest levels of aggression in Trials 4 and 5. As participants in these conditions received lower levels of provocation, it was expected that they would respond less aggressively than participants who received higher levels of provocation.
**Overall Comparison of Trial x Sex x Power x Provocation**

There was a significant interaction between trial, sex, power, and provocation, which was analyzed both across provocation conditions and across trials. For males in the High Power condition the only significant differences that emerged were in the amount (and percentage) of juice poured in Trial 2, Trial 4, and Trial 5. In these trials, males in the High Provocation condition poured significantly more bad juice than any of the other males in the High Power condition. Once again this was expected because participants in the High Provocation condition received the highest levels of provocation on these trials. In analyses for the mean ounces of juice poured there were no significant differences among the males in the Low Power condition. In analyses for the percentage of juice poured, for male participants in the Low Power condition, across trials, participants in the Low Provocation condition poured a significantly greater percentage of bad juice for their partners on Trial 1 than they did on the other 4 trials. Most likely, males responded with higher levels of unprovoked aggression, but once they realized that their partners were not provoking them, they responded with lower levels of aggression.

Females in the High Power condition who were faced with increasing levels of provocation responded with higher levels of aggression on Trial 5 than all other women in the High Power condition. This was expected behavior, considering that females in the Increasing Provocation condition received the highest level of provocation on this trial. Females responded more quickly to increases in the amount of provocation they received then they did to decreases in the amount of provocation they received. Thus, on Trial 5, it was expected that female participants who received increasing amounts of provocation would retaliate with the highest levels of aggression.
Females in the Low Power condition poured more juice on Trial 2 and Trial 3 in the Decreasing Provocation condition than females in the Low Provocation condition (in terms of the mean ounces of juice poured). This was expected, as participants in the Decreasing Provocation received a greater amount of provocation than participants in the Low Provocation condition. For Trial 2 and Trial 5 females in the High Provocation poured significantly more juice than females in the Low Provocation condition. Once again, as participants in the High Provocation received the largest amount of provocation, it is understandable that these participants responded with higher levels of aggression than participants in the Low Provocation condition, who received very little bad juice to drink. In Trial 2, Trial 3, and Trial 5, females in the Increasing Provocation condition poured amounts of juice that fell in between the amounts poured by females in the Low Provocation condition, and the High Provocation condition or Decreasing Provocation condition. Once again, these results for the females in the Increasing Provocation condition and Decreasing Provocation condition were expected, as participants in these conditions received an overall level of provocation that was identical to each other, yet fell in between the amount of provocation that participants in the Low Provocation and the High Provocation conditions received.

For the percentage of juice poured, low power female participants poured the highest percentages of juice on Trial 2 and Trial 3 when they received decreasing provocation. This could be expected considering that on Trials 2 and 3 participants in the Decreasing Provocation condition received 7 ounces followed by 5 ounces of juice, respectively. These large levels of provocation led female participants to aggress at higher levels. Furthermore, these female participants had less power than their partners so they may have been more provoked after receiving high levels of provocation and feeling limited in the amount of aggression they could
retaliates with. Females who received the highest level of provocation poured a higher percentage of bad juice for their partners on Trial 5 then they poured on Trial 3. This followed expectations that participants who received higher levels of provocation would respond more aggressively; female participants may have been more aggressive on Trial 5 than on Trial 3 because this would have been their fifth time drinking 7 ounces of bad tasting juice. These females were most likely responding with higher levels of aggression after several trials of receiving the highest level of provocation and being in a situation where they could not retaliate with more power.

For females in the Low Power condition the only differences that emerged across provocation conditions were in the percentage of juice poured in Trial 2, Trial 3, and Trial 5. In Trial 2 and Trial 3 females in the Decreasing Provocation condition poured a higher percentage of juice than females in the Low Provocation condition. It was expected that participants in the Low Provocation condition would respond with low levels of aggression for both of these trials because participants in this condition received very little provocation. Females in the Decreasing Provocation condition responded more aggressively for Trial 2 because on this trial participants received the highest level of provocation possible (7 ounces). Females in the Decreasing Provocation condition may have responded more aggressively on Trial 3 because they received 5 ounces of bad juice to drink, this also supports the theory that participants took longer to respond to decreases in provocation level then they did to respond to increases in provocation level. In Trial 2 and Trial 5 females in the High Provocation poured a significantly higher percentage of juice than females in the Low Provocation condition. On both of these trials this was expected because participants in the High Provocation condition received the highest level of provocation on every trial, while the participants in the Low Provocation condition received the lowest level of provocation on every trial.
In Trial 2, Trial 3, and Trial 5, females in the Increasing Provocation condition poured percentages of juice that fell in between the percentages poured by females in the Low Provocation condition, and the High Provocation condition or Decreasing Provocation condition. For Trial 2 and Trial 3 the intermediate level of aggression for females in the Increasing Provocation condition was expected because participants in this condition did not receive a large amount of provocation during these trials; yet it was clear that provocation was increasing. For Trial 5, females in the Increasing Provocation condition may have responded less aggressively due to the fact that they knew it was their last trial and they would be reunited with their partner shortly. It was expected that participants in the Low Provocation condition would continue to respond with the lowest levels of aggression and participants in the High Provocation condition would aggress at the highest level.

**Predicting Trial 1 Behavior**

The amount of juice participants poured in the first trial served as a measure of unprovoked aggression. These responses were not dependent on condition. The behavior demonstrated in the first trial was correlated with a participant’s self-report of past aggressive behavior, in order to replicate past studies and to reinforce the finding that a significant predictor of future behavior is past behavior. In the current study, however, there was only one significant correlation; participants who reported using a dominating conflict-management strategy poured a higher percentage of juice on Trial 1 than participants who did not report using a dominating conflict-management strategy. The significant correlations between self-report items and behavior demonstrated by Imbraguglio (2005), Link (2007), and Viggiano (2010) helps to validate the methodology used in the current study.
However, these findings failed to replicate the results from Imbraguglio (2005) who found that a participant who reported having performed more negative behaviors on the ABIR poured more juice for his or her partner on Trial 1. In the Imbraguglio (2005) study, participants who reported using problem-solving and/or obliging conflict-management tactics poured less juice on Trial 1, while those who reported using a dominating conflict-management strategy poured more juice on Trial 1 (Imbraguglio, 2005). Link (2007) found that female participants’ scores on the SOPAS questionnaire were positively correlated with the amount of juice that they poured on Trial 1 and the more negative behaviors a participant reported engaging in on the ABIR predicted the amount of juice they would pour on Trial 1. Viggiano (2010) found similar correlations suggesting a positive relationship between the amounts of juice poured on Trial 1 and the frequency with which that participant reported his or her partner had displayed aggressive behaviors.

**Post-Juice Feelings**

After completing all trials, participants were asked how much they liked, trusted, and loved their partners. They were also asked how pleased they felt with their partners, how angry they felt toward their partners, and how wronged they felt by their partners. Participants’ responses to questions about liking and trust, as well as how pleased, wronged, and angry they felt were dependent on the pattern of provocation that they had been subjected to. Participants in the Low Provocation condition reported liking and trusting their partners more than participants in all other conditions. They also reported feeling less angry, less wronged, and more pleased with their partners than participants in all other conditions. This was expected because these participants received very small levels of provocation across the five trials. Participants in the Increasing Provocation condition and High Provocation condition responded similarly to
questions on liking, pleased, trust, wronged, and anger. This may indicate that during arguments that end in high levels of aggression, the last level of aggression is the most salient; thus participants responded to their feelings based on the most recent amount they were given to drink. Although participants in these two groups experienced different overall levels of provocation, they were exposed to identical levels of provocation on the last trial, and it was this final trial that seemed to affect their feelings the most.

However, the same was not true for participants ending in the lowest level of provocation. Although participants in the Decreasing Provocation condition and Low Provocation condition received similar levels of provocation in the final trial and responded with similar levels of aggression, their responses to these five questions about their feelings towards their partners differed. Participants in the Decreasing Provocation condition reported feeling less liking, less trust, and less pleased by their partner than participants in the Low Provocation condition. Participants in the Decreasing Provocation condition also reported feeling more wronged and angrier at their partner than participants in the Low Provocation condition. This indicates that for the patterns of aggression ending in the lowest level of aggression, participants’ feelings were affected by the overall pattern of aggression, rather than by the last pour. Another possibility is that participants may be “slower” at responding to decreases in aggression, compared to quickly responding to increases in aggression.

This has important implications for how aggression escalates and deescalates in an argument and the effects on feelings after a conflict. Based on the findings in the current study, participants aggress quickly when facing increases in provocation, but are slower in lowering levels of aggression when facing decreases in provocation. Thus, in situations where partners in a close relationship experience repeated provocation from their partners, conflicts or arguments
may escalate into aggression more quickly than in situations where there was less provocation. In situations where there are decreasing levels of provocation, partners are slower to respond to changes by decreasing the level of aggression they display; this may be due to the fact that partners in a romantic relationship respond to the pattern of behavior that they are familiar with and it takes them longer to register a decrease in provocation. This study also suggests that the way an argument ends has important effects on a person’s feelings after the conflict. When an argument ends with a high level of provocation there may be a recency effect, so partners in a romantic couple will remember frustration and feelings of anger. When an argument ends with lower levels of provocation, however, partners will be less likely to remember these negative emotions and feelings of frustration.

When comparing responses of participants on how much anger they felt towards their partners after provocation, there was a significant interaction between provocation condition and sex. Male participants felt less anger towards their partner when they were in the Low Provocation condition and Increasing Provocation condition than male participants in the High Provocation condition and Decreasing Provocation condition. Female participants felt less anger towards their partner when they were in the Low Provocation condition and Decreasing Provocation condition and more anger when they were in the Increasing Provocation condition and High Provocation condition. Thus, female participants responded to the amount of anger they felt based on the level of provocation they received in the last trial. Because participants in the Increasing Provocation condition and High Provocation condition both received identical and high levels of provocation, it is understandable that they reported a higher level of anger towards their partners. Male participants’ rated their level of anger towards their partner based on the overall amount of aggression they received, rather than on the amount of provocation they
received in the last trial. This has important implications for the differences in how men and women feel about their partners after a conflict. Men appear more likely to consider total amount of provocation or aggression that they received when evaluating their level of anger towards their partner, whereas women appear more likely to evaluate their level of anger based on the most recent or most salient provocation.

Finally, when comparing participants’ responses of how much love the felt for their partner after provocation, there was a significant interaction between sex, power, and provocation however post hoc analyses failed to reveal where the significant differences were between groups. From trends in participant responses, it seems that male participants with more power reported feeling higher levels of love for their partners when they were in the Low Provocation condition or Increasing Provocation condition, than when they were in the Decreasing Provocation condition or High Provocation condition. Though the differences between provocation conditions were not significant, it is expected that participants who received less provocation reported feeling higher levels of love for their partners following the five trials because they received very little provocation. Male participants with more power in the Increasing Provocation condition may have rated their love for their partner highly and male participants in the Low Power condition may have reported generally the same level of love for their partners across all four provocation conditions because they did not allow one altercation (this laboratory manipulation) to alter their feelings of love for their partner. Love may be a more static emotion, unlike feelings of anger, or feeling wronged or pleased, which might be more state-dependent. These findings were similar to Imbraguglio’s 2005 study, which found that feelings of love remained high despite provocation participants received and aggression
reciprocated (using the same bad juice paradigm). Thus, it may take many instances of aggression before feelings of love are affected.

Female participants with more power reported feeling the lowest amount of love for their partners in the Increasing Provocation condition and the highest amounts of love for the partners in the Low Provocation condition, the Decreasing Provocation condition, and the High Provocation condition. As expected, in the Increasing Provocation Condition female’s reports of love of their partners were dependent on the amount of provocation they received on the last trial. On the last trial participants who received decreasing and low levels of provocation received very low levels of provocation so they were expected to rate their feelings of love towards their partner as higher than participants who received higher levels of provocation on the last trial. Participants who received a steadily increasing level of provocation across all five trials reported a lower level of love for their partner, which was expected due to the salience of the last trial. However, participants in the High Provocation condition did not report feeling less love for their partners after provocation, despite the fact that participants in this condition also received the highest level of provocation on the fifth trial. Perhaps this difference emerged because participants in the high provocation condition were surprised by the consistently high provocation they received, while participants in the Increasing Provocation condition were able to match the provocation experience more closely to their previous experiences with conflicts in their relationship. Thus, female participants who experienced high provocation may have made excuses for their partner’s behavior because they had never experienced such high levels of aggression in the past. In contrast, female participants who experience increasing provocation were less surprised by their partner’s pattern of behavior and thus they were less forgiving of their partner’s behavior. Female participants in the Low Power condition seemed to report the
highest levels of love for their partners when they were in the Low Provocation condition and Increasing Provocation condition, and the lowest levels of love for their partners in the Decreasing Provocation condition. It was expected that participants in the lowest provocation condition reported feeling the highest levels of love for their partner, as they received the smallest amount of provocation. Once again, love may be a static emotion, thus participants may not have been susceptible to having their feelings of love manipulated based on one series of provocations in a laboratory; this may explain why participants in the Increasing Provocation condition reported the highest levels of love for their partners. To explain why participants who experienced decreasing provocation reported the lowest levels of love for their partners, it may be that participants were responding to overall provocation, rather than the salience of the last trial, or participants may have been slower to respond to decreasing levels of provocation.

Overall, these findings present some guidelines for romantic couples. If someone wants his or her romantic partner to like or trust him or her, that person should be nice to his or her partner at all times and provoke them as little as possible. If someone wants his or her partner to have positive feelings towards him or her, it is in his or her best interest to lower the level of aggression before the end of the argument; apparently there is a salience effect where the ending of an argument sets the tones for the emotions associated with a partner’s feelings about the altercation and his or her partner. Finally, if someone wants his or her partner to have the most positive feelings toward him or her, then he or she should display low levels of aggression throughout any argument.

When interpreting these findings, another explanation that should be considered is the feelings of the participant who retaliated aggressively against his or her partner.
Participants may have experienced cognitive dissonance when they were filling out the questionnaire asking about their feelings about their partner (Imbraguglio, 2005). They may have felt that they needed to “close the gap” between their feelings and their aggressive behavior in order to feel less anxiety about how they responded in the paradigm. Thus, they may have answered the questions about their feelings towards their partner in an effort to close this gap, rather than in a way that accurately represented their feelings (ex. “I behaved aggressively towards my partner, therefore I must not like him/her”). A Pearson’s Correlation test was conducted to determine the relationship between a participant’s feelings towards his or her partner following provocation and the amount of juice he or she poured for their partner on the last trial. Participants who poured more juice for their partners to drink on Trial 5 were more likely to report liking their partners less \( r(154) = -.27, p < .01 \), loving their partners less \( r(153) = -.25, p < .01 \), trusting their partners less \( r(154) = -.26, p < .01 \), and feeling less pleased with their partners \( r(154) = -.27, p < .01 \) than participants who poured less juice for their partners to drink on Trial 5. Participants who poured more juice for their partners to drink on Trial 5 were also more likely to report feeling more anger towards their partners \( r(154) = .20, p < .05 \) than participants who poured less juice on Trial 5. A Pearson’s Correlation test was also conducted to determine if a similar relationship existed between a participant’s feelings towards their partner following provocation and the percentage of juice they poured for their partner on the last trial. Results were identical to those for the mean ounces poured: participants who poured a greater percentage of juice for their partners on the last trial reported liking their partners less \( r(154) = -.28, p < .01 \), loving their partners less \( r(153) = -.25, p < .01 \), trusting their partners less \( r(154) = -.27, p < .01 \), and feeling less pleased with their partners \( r(154) = -.24, p < .01 \) than participants who poured a lower percentage of juice for their partners to drink on Trial 5. Similar
to results from the mean ounces poured correlations, participants who poured a greater percentage of juice for their partners to drink on Trial 5 were more likely to report feeling more anger towards their partners \([r(154) = .18, p < .05]\) than participants who poured a lower percentage of juice on the last trial. These results support the idea that participants may have reported their feelings about their partner based on a feeling of cognitive dissonance after allotting a large amount of juice for their partner to drink, rather than actually reporting on their feelings towards their partner.

**Limitations and Future Research**

This study was not without limitations. One limitation of this study was the relatively small sample size. This small sample size also means that results are not statistically powerful enough to generalize to a larger population. Future research should continue this research in order to increase the sample size and statistical power. This would allow researchers to determine where there were significant main effects and interactions and these findings could then be generalized to a larger population. Another limitation of the current study was that the sample was very homogenous in regard to age, race, and relationship duration. Due to this limitation, the generalizability of these findings to non-student couples may be restricted. A more diverse sample of participants, including those from a different age group or married couples, would be needed to obtain a more comprehensive understanding of the dynamics of the individual and relationship variables contributing to power and aggression in close relationship.

Experimental research in this area is also limited in the ability to generalize results to real-life phenomena. The current study attempted to represent a realistic couple dispute during which one partner had more power than the other and during which partners could decide whether or not to retaliate against their partner after receiving provocation. In this laboratory
paradigm participants were separated into separate rooms which was necessary to execute manipulation; however this design limits the paradigm’s generalizability to a realistic argument. In separate rooms, participants were unable to observe each other’s nonverbal cues which often contribute to the dynamics of a conflict. Additionally, being in separate rooms allowed participants a degree of anonymity that may have affected their decisions on how they aggressed against their partners. Finally, in this study the only form of aggression that a participant had available was allotting various amounts of bad tasting juice for his or her partner. This form of aggression only represents milder forms of physical aggression and does not account for other types of aggression that could be used during a real-life dispute, such as verbal or psychological aggression.

Another limitation of this study was it only examined a participant’s overt willingness to aggress against their partner, but may not have accurately assessed verbal or psychological abuse. Future research in this field could assess the role of nonphysical aggression in this paradigm. Participants were not asked if they perceived a power discrepancy between the partners, in future studies this may be a helpful question to ask participants to be sure they were aware of the unequal power distribution. Future studies may also examine if there are any differences for homosexual couples when compared to heterosexual couples in this paradigm or the role of alcohol in aggression in close relationships. Finally, future research should not inform participants at the beginning of the paradigm that there will be five trials in total in order to see if participants change their behavior on the last trial because they know it is the end of the experiment.
Conclusions

Despite the above limitations, Several important conclusions can be drawn from these data. Overall, aggressive responses are affected by the type and pattern of provocation received. Even though participants reported previously engaging in arguments with their significant others and establishing a pattern of aggression, participants’ aggressive responses were still subject to manipulation in this paradigm. This implies that a couple’s pattern of aggression can be changed across arguments despite their history of aggression. The results of this study suggest that a change in a couples’ aggressive patterns requires one member of the couple to initiate a different pattern of aggression. It seems that a partner can change the pattern of aggression for better or for worse: a highly aggressive partner may find that his or her partner’s aggression eventually matches his or her own aggression level, or a partner wishing to lower his or her partner’s level of aggression may choose to lower his or her own level of aggression. Due to the limitations of this paradigm and the relatively short time frame, these results are most generalizable to single arguments rather than overall levels of aggression in a couple’s relationship and are also more relevant to couples who experience mild types of aggression.

Important conclusions can also be drawn about the role of power in a relationship. Overall, participants who had more power were more willing to use their power against their partners; that is they poured a greater amount of bad juice for their partner to drink than participants with less power. However, participants who had less power aggressed at a higher level than participants who had more power; that is, participants in the Low Power condition poured a significantly greater percentage of bad juice for their partners than participants in the High Power condition. Participants with more power responded most aggressively to high levels of provocation, while participants with less power responded aggressively to all levels of
provocation except low levels. When examining the effect of sex, these patterns followed for males in the High Provocation condition and low power females, respectively.

Interestingly, on four occasions a male participant chose to switch the cup that he was given to pour juice in for the cup that they were given to drink out of. These cup switches could have simply been mistakes, however three male participants in the Low Power condition switched their 8oz cup for their partner’s 12oz cup on at least one trial. In two of these cases participants poured more than eight ounces of juice for their partners to drink, thus using the bigger cup to assert more power. In only one instance did a male participant forfeit his larger (12oz) cup and pour juice in his partner’s smaller (8oz) cup, which could have been an attempt to balance the power distribution.

The results of the current study suggest that when one partner of a romantic relationship experiences more power in a relationship it takes a higher level of provocation for him or her to aggress against his or her partner. This could be due to the fact that these individuals feel secure and that they have emotional, social, or financial control in the relationship which may lead them to use alternate conflict management strategies. When one partner of a romantic relationship experiences less power in a relationship, he or she appears to be more sensitive to provocation, and even moderate provocation can lead him or her to aggress towards a partner. This may be due to a feeling of less control in the relationship and less influence over his or her partner’s decisions. Only women were found to follow this pattern of aggression when they were in the Low Power condition, but several male participants in the Low Power condition responded by switching the cup size he was given and therefore demanding an equal level of power with his partner. Men may have been more receptive to bad juice measure of retaliatory aggression than women, which may explain why women did not switch cups in order to pour more juice for their
partner. Although men and women report similar levels of aggression in close relationships, the type of aggression they display differs, thus some gender differences may be attributable to the fact that participants only had one method to aggress against their partner. In addition, women seemed to be more affected when they had less power than their partner than males in similar situations. This finding has real-world connections for relationship and family dynamics in today’s society, especially as more women are working outside of the home and family roles are becoming more egalitarian. As women have increasingly equal opportunities in society, they may demand equal partnerships in romantic relationships; when women feel they have less power than their significant other they may retaliate aggressively in order to obtain more power. Thus, the gender differences in the results of current study have implications for the type of aggression that men and women employ, as well as for the power distribution in relationships between men and women.
References


Schumacher, J., & Leonard, K. (2005). Husbands’ and wives’ marital adjustment, verbal aggression, and physical aggression as longitudinal predictors of physical


Conflict Tactics Scales (CTS2): Development and preliminary psychometric data.

*Journal of Family Issues, 17, 283-316.*


of higher education students. *Violence and Victims, 6*, 247–256.


Table 1

Total number of participants in each group; numbers exclude cases in which participants discovered the true nature of the study.

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Power</td>
<td>Low Power</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Increasing</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Decreasing</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>High</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>
Table 2

Amount of juice poured across all trials as a function of provocation condition and power condition (mean ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>High Power</th>
<th>Low Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>$2.60_a ± 0.32$</td>
<td>$1.98_a ± 0.32$</td>
</tr>
<tr>
<td>Increasing</td>
<td>$3.53_a ± 0.33$</td>
<td>$3.23_b ± 0.32$</td>
</tr>
<tr>
<td>Decreasing</td>
<td>$3.01_a ± 0.33$</td>
<td>$3.10_b ± 0.32$</td>
</tr>
<tr>
<td>High</td>
<td>$5.18_b ± 0.34$</td>
<td>$2.85_b ± 0.32$</td>
</tr>
</tbody>
</table>

Note: Within columns, different subscripts indicate significant differences in the amount of juice poured.
Table 3

Amount of juice poured across all trials as a function of provocation condition, power condition, and sex of participant (mean ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Males</th>
<th>Females</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Power</td>
<td>Low Power</td>
<td>High Power</td>
</tr>
<tr>
<td>Low</td>
<td>2.84ₐ ± 0.45</td>
<td>2.30ₐ ± 0.45</td>
<td>2.36ₐ ± 0.45</td>
</tr>
<tr>
<td>Increasing</td>
<td>3.21ₐ ± 0.47</td>
<td>3.49ₐ ± 0.45</td>
<td>3.85ₐ ± 0.45</td>
</tr>
<tr>
<td>Decreasing</td>
<td>3.04ₐ ± 0.47</td>
<td>3.10ₐ ± 0.47</td>
<td>2.99ₐb ± 0.47</td>
</tr>
<tr>
<td>High</td>
<td>6.20ₐb ± 0.45</td>
<td>2.69ₐ ± 0.45</td>
<td>4.16ₐb ± 0.50</td>
</tr>
</tbody>
</table>

Note: Within columns, different subscripts indicate significant differences in the amount of juice poured.
Table 4

Mean amount of juice poured on each trial as a function of provocation condition (mean ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
<th>Trial 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>3.03&lt;sub&gt;aa&lt;/sub&gt; ± 0.26</td>
<td>2.28&lt;sub&gt;AB&lt;/sub&gt; ± 0.34</td>
<td>2.19&lt;sub&gt;bA&lt;/sub&gt; ± 0.40</td>
<td>2.06&lt;sub&gt;bA&lt;/sub&gt; ± 0.42</td>
<td>1.90&lt;sub&gt;bA&lt;/sub&gt; ± 0.44</td>
</tr>
<tr>
<td>Increasing</td>
<td>2.59&lt;sub&gt;aA&lt;/sub&gt; ± 0.26</td>
<td>2.41&lt;sub&gt;aA&lt;/sub&gt; ± 0.34</td>
<td>2.75&lt;sub&gt;bA&lt;/sub&gt; ± 0.41</td>
<td>3.85&lt;sub&gt;bA&lt;/sub&gt; ± 0.42</td>
<td>5.31&lt;sub&gt;bA&lt;/sub&gt; ± 0.50</td>
</tr>
<tr>
<td>Decreasing</td>
<td>2.22&lt;sub&gt;aA&lt;/sub&gt; ± 0.27</td>
<td>3.87&lt;sub&gt;bA&lt;/sub&gt; ± 0.35</td>
<td>3.56&lt;sub&gt;bA&lt;/sub&gt; ± 0.42</td>
<td>2.75&lt;sub&gt;aA&lt;/sub&gt; ± 0.43</td>
<td>2.88&lt;sub&gt;aA&lt;/sub&gt; ± 0.46</td>
</tr>
<tr>
<td>High</td>
<td>2.70&lt;sub&gt;aA&lt;/sub&gt; ± 0.27</td>
<td>4.23&lt;sub&gt;bA&lt;/sub&gt; ± 0.35</td>
<td>3.99&lt;sub&gt;bA&lt;/sub&gt; ± 0.41</td>
<td>4.53&lt;sub&gt;bA&lt;/sub&gt; ± 0.43</td>
<td>4.61&lt;sub&gt;bA&lt;/sub&gt; ± 0.46</td>
</tr>
</tbody>
</table>

Note: Within columns, different lowercase subscripts indicate significant differences in the amount of juice poured comparing ounces poured across provocation conditions. Within rows, different uppercase subscripts indicate significant differences in the amount of juice poured comparing ounces poured across trials.
Table 5

Amount of juice poured for each trial as a function of provocation condition, power condition, and sex of participant (mean ± standard error).

**Males**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Low</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>High</th>
<th>Low</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.20_A</td>
<td>2.74_A</td>
<td>1.51_A</td>
<td>3.40_A</td>
<td>2.85_A</td>
<td>2.72_A</td>
<td>2.64_A</td>
<td>1.92_A</td>
</tr>
<tr>
<td></td>
<td>± 0.51</td>
<td>± 0.54</td>
<td>± 0.54</td>
<td>± 0.51</td>
<td>± 0.51</td>
<td>± 0.54</td>
<td>± 0.54</td>
<td>± 0.51</td>
</tr>
<tr>
<td>2</td>
<td>3.30_A</td>
<td>2.55_A</td>
<td>3.54_A</td>
<td>7.20_B</td>
<td>2.01_A</td>
<td>2.81_A</td>
<td>3.99_A</td>
<td>2.21_A</td>
</tr>
<tr>
<td></td>
<td>± 0.67</td>
<td>± 0.71</td>
<td>± 0.71</td>
<td>± 0.67</td>
<td>± 0.67</td>
<td>± 0.71</td>
<td>± 0.67</td>
<td>± 0.67</td>
</tr>
<tr>
<td>3</td>
<td>2.70_A</td>
<td>2.79_A</td>
<td>3.79_A</td>
<td>6.40_A</td>
<td>2.49_A</td>
<td>2.09_A</td>
<td>2.90_A</td>
<td>3.09_A</td>
</tr>
<tr>
<td></td>
<td>± 0.80</td>
<td>± 0.85</td>
<td>± 0.85</td>
<td>± 0.80</td>
<td>± 0.80</td>
<td>± 0.85</td>
<td>± 0.80</td>
<td>± 0.80</td>
</tr>
<tr>
<td>4</td>
<td>2.10_A</td>
<td>3.03_A</td>
<td>3.37_AB</td>
<td>6.90_B</td>
<td>2.26_A</td>
<td>4.68_A</td>
<td>3.47_A</td>
<td>2.68_A</td>
</tr>
<tr>
<td></td>
<td>± 0.88</td>
<td>± 0.88</td>
<td>± 0.88</td>
<td>± 0.83</td>
<td>± 0.83</td>
<td>± 0.88</td>
<td>± 0.88</td>
<td>± 0.83</td>
</tr>
<tr>
<td>5</td>
<td>1.89_A</td>
<td>4.96_AB</td>
<td>2.99_AB</td>
<td>7.09_B</td>
<td>1.90_A</td>
<td>5.15_A</td>
<td>2.50_A</td>
<td>3.56_A</td>
</tr>
<tr>
<td></td>
<td>± 0.88</td>
<td>± 0.93</td>
<td>± 0.93</td>
<td>± 0.88</td>
<td>± 0.88</td>
<td>± 0.93</td>
<td>± 0.88</td>
<td>± 0.88</td>
</tr>
</tbody>
</table>
Table 5 (continued)

**Females**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Low</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>High</th>
<th>Low</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.25&lt;sub&gt;A&lt;/sub&gt; 2.58&lt;sub&gt;A&lt;/sub&gt; 2.53&lt;sub&gt;A&lt;/sub&gt; 3.10&lt;sub&gt;A&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td>2.80&lt;sub&gt;A&lt;/sub&gt; 2.31&lt;sub&gt;A&lt;/sub&gt; 2.20&lt;sub&gt;A&lt;/sub&gt; 2.40&lt;sub&gt;A&lt;/sub&gt;</td>
<td>± 0.51 ± 0.51 ± 0.54 ± 0.57</td>
<td>± 0.51 ± 0.51 ± 0.51 ± 0.51</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.31&lt;sub&gt;A&lt;/sub&gt; 2.69&lt;sub&gt;A&lt;/sub&gt; 3.66&lt;sub&gt;A&lt;/sub&gt; 4.62&lt;sub&gt;A&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td>1.50&lt;sub&gt;A&lt;/sub&gt; 1.60&lt;sub&gt;A&lt;/sub&gt; 4.30&lt;sub&gt;B&lt;/sub&gt; 2.90&lt;sub&gt;B&lt;/sub&gt;</td>
<td>± 0.67 ± 0.67 ± 0.71 ± 0.75</td>
<td>± 0.67 ± 0.67 ± 0.67 ± 0.67</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.29&lt;sub&gt;A&lt;/sub&gt; 2.61&lt;sub&gt;A&lt;/sub&gt; 3.34&lt;sub&gt;A&lt;/sub&gt; 4.26&lt;sub&gt;A&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td>1.30&lt;sub&gt;A&lt;/sub&gt; 3.50&lt;sub&gt;AB&lt;/sub&gt; 4.20&lt;sub&gt;BA&lt;/sub&gt; 2.20&lt;sub&gt;AB&lt;/sub&gt;</td>
<td>± 0.80 ± 0.80 ± 0.85 ± 0.90</td>
<td>± 0.80 ± 0.80 ± 0.80 ± 0.80</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.36&lt;sub&gt;A&lt;/sub&gt; 3.72&lt;sub&gt;A&lt;/sub&gt; 2.58&lt;sub&gt;A&lt;/sub&gt; 5.02&lt;sub&gt;A&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td>1.50&lt;sub&gt;A&lt;/sub&gt; 3.99&lt;sub&gt;A&lt;/sub&gt; 1.60&lt;sub&gt;A&lt;/sub&gt; 3.50&lt;sub&gt;A&lt;/sub&gt;</td>
<td>± 0.83 ± 0.83 ± 0.88 ± 0.93</td>
<td>± 0.83 ± 0.83 ± 0.83 ± 0.83</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2.60&lt;sub&gt;A&lt;/sub&gt; 7.65&lt;sub&gt;B&lt;/sub&gt; 2.83&lt;sub&gt;A&lt;/sub&gt; 3.80&lt;sub&gt;A&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td>1.19&lt;sub&gt;A&lt;/sub&gt; 3.48&lt;sub&gt;AB&lt;/sub&gt; 3.19&lt;sub&gt;AB&lt;/sub&gt; 3.99&lt;sub&gt;B&lt;/sub&gt;</td>
<td>± 0.88 ± 0.88 ± 0.93 ± 0.99</td>
<td>± 0.88 ± 0.88 ± 0.88 ± 0.88</td>
<td></td>
</tr>
</tbody>
</table>

Note: Within columns, different lowercase letter subscripts indicate significant differences in the amount of juice poured for each provocation condition. Within rows, different uppercase letter subscripts indicate significant differences in the amount of juice poured for each trial number. There were no significant differences for males or females in the amount of juice poured across provocation conditions (thus there are no lowercase letters on this table).
Table 6

Percentage of juice poured across all trials as a function of provocation condition and power condition (percentage ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>High Power</th>
<th>Low Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>$0.22_a \pm 0.03$</td>
<td>$0.25_a \pm 0.03$</td>
</tr>
<tr>
<td>Increasing</td>
<td>$0.29_a \pm 0.03$</td>
<td>$0.40_b \pm 0.03$</td>
</tr>
<tr>
<td>Decreasing</td>
<td>$0.25_a \pm 0.03$</td>
<td>$0.39_b \pm 0.03$</td>
</tr>
<tr>
<td>High</td>
<td>$0.43_b \pm 0.03$</td>
<td>$0.36_b \pm 0.03$</td>
</tr>
</tbody>
</table>

Note: Within columns, different subscripts indicate significant differences in the percentage of juice poured.
Table 7

Percentage of juice poured across all trials as a function of provocation condition, power condition, and sex of participant (percentage ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Males High Power</th>
<th>Males Low Power</th>
<th>Females High Power</th>
<th>Females Low Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0.24 ± 0.05</td>
<td>0.29 ± 0.05</td>
<td>0.20 ± 0.05</td>
<td>0.21 ± 0.05</td>
</tr>
<tr>
<td>Increasing</td>
<td>0.27 ± 0.05</td>
<td>0.44 ± 0.05</td>
<td>0.32 ± 0.05</td>
<td>0.37 ± 0.05</td>
</tr>
<tr>
<td>Decreasing</td>
<td>0.25 ± 0.05</td>
<td>0.39 ± 0.05</td>
<td>0.25 ± 0.05</td>
<td>0.39 ± 0.05</td>
</tr>
<tr>
<td>High</td>
<td>0.52 ± 0.05</td>
<td>0.34 ± 0.05</td>
<td>0.35 ± 0.05</td>
<td>0.38 ± 0.05</td>
</tr>
</tbody>
</table>

Note: Within columns, different subscripts indicate significant differences in the percentage of juice poured.
Table 8

Percentage of juice poured on each trial as a function of provocation condition (percentage ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
<th>Trial 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0.31\textsubscript{aB} ± 0.03</td>
<td>0.23\textsubscript{aA} ± 0.03</td>
<td>0.22\textsubscript{aA} ± 0.04</td>
<td>0.21\textsubscript{aA} ± 0.04</td>
<td>0.19\textsubscript{aA} ± 0.05</td>
</tr>
<tr>
<td>Increasing</td>
<td>0.27\textsubscript{aA} ± 0.03</td>
<td>0.25\textsubscript{aA} ± 0.03</td>
<td>0.29\textsubscript{abA} ± 0.04</td>
<td>0.41\textsubscript{bA} ± 0.04</td>
<td>0.53\textsubscript{bA} ± 0.05</td>
</tr>
<tr>
<td>Decreasing</td>
<td>0.24\textsubscript{aA} ± 0.03</td>
<td>0.41\textsubscript{bA} ± 0.04</td>
<td>0.37\textsubscript{abA} ± 0.04</td>
<td>0.28\textsubscript{abA} ± 0.05</td>
<td>0.30\textsubscript{acA} ± 0.05</td>
</tr>
<tr>
<td>High</td>
<td>0.27\textsubscript{aA} ± 0.03</td>
<td>0.41\textsubscript{bA} ± 0.04</td>
<td>0.39\textsubscript{bA} ± 0.04</td>
<td>0.44\textsubscript{bA} ± 0.04</td>
<td>0.46\textsubscript{bcA} ± 0.05</td>
</tr>
</tbody>
</table>

Note: Within columns, different lowercase subscripts indicate significant differences in the amount of juice poured comparing the percentage poured across provocation conditions. Within rows, different uppercase subscripts indicate significant differences in the amount of juice poured comparing the percentage poured across trials.
Table 9

Percent of juice poured for each trial as a function of provocation condition, power condition, and sex of participant (percentage ± standard error).

*Males*

<table>
<thead>
<tr>
<th>Trial</th>
<th>Low</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>High</th>
<th>Low</th>
<th>Increasing</th>
<th>Decreasing</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.35ₐ</td>
<td>0.23ₐ</td>
<td>0.12ₐ</td>
<td>0.28ₐ</td>
<td>0.36ₐ</td>
<td>0.34ₐ</td>
<td>0.33ₐ</td>
<td>0.24ₐ</td>
</tr>
<tr>
<td></td>
<td>± 0.05</td>
<td>± 0.06</td>
<td>± 0.06</td>
<td>± 0.05</td>
<td>± 0.05</td>
<td>± 0.05</td>
<td>± 0.06</td>
<td>± 0.05</td>
</tr>
<tr>
<td>2</td>
<td>0.28ₐ</td>
<td>0.21ₐ</td>
<td>0.30ₐ</td>
<td>0.60ₐ</td>
<td>0.25ₐ</td>
<td>0.35ₐ</td>
<td>0.50ₐ</td>
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<tr>
<td></td>
<td>± 0.07</td>
<td>± 0.07</td>
<td>± 0.07</td>
<td>± 0.07</td>
<td>± 0.07</td>
<td>± 0.07</td>
<td>± 0.07</td>
<td>± 0.07</td>
</tr>
<tr>
<td>3</td>
<td>0.23ₐ</td>
<td>0.23ₐ</td>
<td>0.32ₐ</td>
<td>0.53ₐ</td>
<td>0.31ₐ</td>
<td>0.26ₐ</td>
<td>0.36ₐ</td>
<td>0.39ₐ</td>
</tr>
<tr>
<td></td>
<td>± 0.08</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.08</td>
<td>± 0.08</td>
<td>± 0.08</td>
<td>± 0.09</td>
<td>± 0.08</td>
</tr>
<tr>
<td>4</td>
<td>0.18ₐ</td>
<td>0.25ₐ</td>
<td>0.28ₐ</td>
<td>0.58ₐ</td>
<td>0.28ₐ</td>
<td>0.59ₐ</td>
<td>0.43ₐ</td>
<td>0.34ₐ</td>
</tr>
<tr>
<td></td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
</tr>
<tr>
<td>5</td>
<td>0.16ₐ</td>
<td>0.41ₐ</td>
<td>0.25ₐ</td>
<td>0.59ₐ</td>
<td>0.24ₐ</td>
<td>0.65ₐ</td>
<td>0.31ₐ</td>
<td>0.45ₐ</td>
</tr>
<tr>
<td></td>
<td>± 0.09</td>
<td>± 0.10</td>
<td>± 0.10</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.09</td>
<td>± 0.10</td>
<td>± 0.10</td>
</tr>
</tbody>
</table>
Table 9 (continued)

### Females

<table>
<thead>
<tr>
<th>Trial</th>
<th>High Power</th>
<th>Low Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Increasing</td>
</tr>
<tr>
<td>1</td>
<td>0.19\text{A}</td>
<td>0.21\text{A}</td>
</tr>
<tr>
<td></td>
<td>± 0.05</td>
<td>± 0.05</td>
</tr>
<tr>
<td>2</td>
<td>0.19\text{A}</td>
<td>0.22\text{A}</td>
</tr>
<tr>
<td></td>
<td>± 0.07</td>
<td>± 0.07</td>
</tr>
<tr>
<td>3</td>
<td>0.19\text{A}</td>
<td>0.22\text{A}</td>
</tr>
<tr>
<td></td>
<td>± 0.08</td>
<td>± 0.08</td>
</tr>
<tr>
<td>4</td>
<td>0.20\text{A}</td>
<td>0.31\text{A}</td>
</tr>
<tr>
<td></td>
<td>± 0.09</td>
<td>± 0.09</td>
</tr>
<tr>
<td>5</td>
<td>0.22\text{A}</td>
<td>0.64\text{B}</td>
</tr>
<tr>
<td></td>
<td>± 0.09</td>
<td>± 0.09</td>
</tr>
</tbody>
</table>

Note: Within columns, different lowercase letter subscripts indicate significant differences in the percentage of juice poured for each provocation condition. Within rows, different uppercase letter subscripts indicate significant differences in the percentage of juice poured for each trial number. There were no significant differences for males in the high power condition or females in the high power condition for the percentage of juice poured across provocation conditions (thus there are no lowercase letters listed for those sections on this table).
Table 10

Participants’ ratings of selected emotions they feel toward their partner immediately following experiment (mean ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Liking</th>
<th>Pleased</th>
<th>Trust</th>
<th>Wronged</th>
<th>Angry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>6.27\textsubscript{a} ± 0.23</td>
<td>6.32\textsubscript{a} ± 0.27</td>
<td>6.61\textsubscript{a} ± 0.21</td>
<td>1.23\textsubscript{a} ± 0.24</td>
<td>1.13\textsubscript{a} ± 0.22</td>
</tr>
<tr>
<td>Increasing</td>
<td>5.32\textsubscript{b} ± 0.24</td>
<td>4.59\textsubscript{b} ± 0.27</td>
<td>5.75\textsubscript{b} ± 0.21</td>
<td>2.20\textsubscript{b} ± 0.25</td>
<td>2.35\textsubscript{b} ± 0.22</td>
</tr>
<tr>
<td>Decreasing</td>
<td>5.11\textsubscript{b} ± 0.24</td>
<td>4.49\textsubscript{b} ± 0.28</td>
<td>5.78\textsubscript{b} ± 0.21</td>
<td>2.60\textsubscript{b} ± 0.25</td>
<td>2.63\textsubscript{b} ± 0.23</td>
</tr>
<tr>
<td>High</td>
<td>4.95\textsubscript{b} ± 0.24</td>
<td>4.03\textsubscript{b} ± 0.28</td>
<td>5.42\textsubscript{b} ± 0.21</td>
<td>2.93\textsubscript{b} ± 0.25</td>
<td>2.50\textsubscript{b} ± 0.23</td>
</tr>
</tbody>
</table>

Note: Within columns, different subscripts indicate significant differences in participants’ ratings of feelings toward their partner.
Table 11

Participants’ ratings of how much angry they were at their partner immediately following the experiment as a function of sex and provocation condition (mean ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1.10&lt;sub&gt;a&lt;/sub&gt; ± 0.31</td>
<td>1.15&lt;sub&gt;a&lt;/sub&gt; ± 0.31</td>
</tr>
<tr>
<td>Increasing</td>
<td>1.90&lt;sub&gt;a&lt;/sub&gt; ± 0.32</td>
<td>2.80&lt;sub&gt;b&lt;/sub&gt; ± 0.31</td>
</tr>
<tr>
<td>Decreasing</td>
<td>3.33&lt;sub&gt;b&lt;/sub&gt; ± 0.33</td>
<td>1.94&lt;sub&gt;ab&lt;/sub&gt; ± 0.32</td>
</tr>
<tr>
<td>High</td>
<td>2.30&lt;sub&gt;b&lt;/sub&gt; ± 0.31</td>
<td>2.70&lt;sub&gt;b&lt;/sub&gt; ± 0.33</td>
</tr>
</tbody>
</table>

Note: Within columns, different subscripts indicate significant differences in participants’ ratings of anger toward their partner.
Table 12

Participants’ ratings of how much they love their partner immediately following the experiment as a function of sex, power condition, and provocation condition (mean ± standard error).

<table>
<thead>
<tr>
<th>Provocation</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Power</td>
<td>Low Power</td>
</tr>
<tr>
<td>Low</td>
<td>5.90 ± 0.56</td>
<td>5.89 ± 0.56</td>
</tr>
<tr>
<td>Increasing</td>
<td>6.24 ± 0.59</td>
<td>5.19 ± 0.56</td>
</tr>
<tr>
<td>Decreasing</td>
<td>4.80 ± 0.59</td>
<td>5.90 ± 0.59</td>
</tr>
<tr>
<td>High</td>
<td>4.60 ± 0.56</td>
<td>5.67 ± 0.59</td>
</tr>
</tbody>
</table>

Note: There were no significant differences in participants’ ratings of love toward their partner.
Appendix A

Post-Juice Feelings Questionnaire

1. How difficult were the mazes?
   
   1 2 3 4 5 6 7
   very easy
   very hard

2. How did your beverage taste?

   1 2 3 4 5 6 7
   very bad
   very good

3. How much were you given to drink?

   1 2 3 4 5 6 7
   a little
   a lot

4. To what extent do you think that the amount you drank interfered with your performances on the mazes?

   1 2 3 4 5 6 7
   a little
   a lot

5. To what extent do you think the amount you were given by your partner influence the amount you poured for your partner?

   1 2 3 4 5 6 7
   a little
   a lot

For the following questions, please reflect on how you are feeling right now and not on how you usually feel.

6. How much do you like your partner right now?

   1 2 3 4 5 6 7
   a little
   a lot
7. How much do you love your partner right now?
   1 2 3 4 5 6 7
   a little a lot

8. How pleased are you with your partner right now?
   1 2 3 4 5 6 7
   a little a lot

9. How angry are you with your partner right now?
   1 2 3 4 5 6 7
   a little a lot

10. How much do you trust your partner right now?
    1 2 3 4 5 6 7
    a little a lot

11. How wronged do you feel by your partner right now?
    1 2 3 4 5 6 7
    a little a lot
Appendix B

Background Information Questionnaire

1. Sex: M F

2. Age: __________

3. Race:
   - African-American/Black
   - Asian-Pacific Islander
   - Caucasian/White
   - Hispanic
   - Native American

4. How long have you been dating the person who is here with you today?
   _______________ months

5. Are you dating this person exclusively?
   Yes     No

If not, are you dating other people?
   Yes     No

6. In general, how satisfied are you with your current romantic relationship?

   Not at all;
          1   2   3   4   5   6   7   8     Very
          9  

7. In general, how serious is your current romantic relationship?

   Not at all;
   Very casual
          1   2   3   4   5   6   7   8   9
   Very serious;
   We’re committed

8. Though times may change and the future is uncertain, how sure are you that your partner will always be ready and willing to offer you strength and support?

   Not at all sure
          1   2   3   4   5   6   7   8
   Very sure
          9
9. How comfortable do you feel when your partner has to make decisions that will affect you personally?

Not at all comfortable 1 2 3 4 5 6 7 8 9

10. In comparison to your current level of closeness, how close do you think you and your romantic partner will be six months from now?

Much less close 1 2 3 4 5 6 7 8 9
About the same
Much closer
Appendix C

Aggressive Behavior in Relationships (ABIR)

"Relationship Behaviors"

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please write how many times you did each if these things ever in your relationship, and how many times your current partner did them. If you or your current partner did not do one of these things during your relationship with each other, but it has happened before in another relationship, write "7."

How often did/would this happen?

0 = this has never happened in my current relationship
1 = once in my current relationship
2 = twice in my current relationship
3 = 3-5 times in my current relationship
4 = 6-10 times in my current relationship
5 = 11-20 times in my current relationship
6 = more than 20 times in my current relationship
7 = not in my current relationship, but it did happen in a previous relationship

___1. I showed my partner I cared even though we disagreed.
___2. My partner showed me he or she cared even though we disagreed.
___3. I explained my side of a disagreement to my partner.
___4. My partner explained his or her side of a disagreement to me.
___5. I insulted or swore at my partner.
___6. My partner insulted or swore at me.
___7. I threw something at my partner that could hurt.
___8. My partner threw something at me that could hurt.
___9. I hit or kicked a wall, door or furniture.*
___10. My partner hit or kicked a wall, door or furniture.*
___11. I twisted my partner's arm or hair.
___12. My partner twisted my arm or hair.
13. I had a sprain, bruise, or small cut because of a fight with my partner.
14. My partner had a sprain, bruise, or small cut because of a fight with me.
15. I showed respect for my partner's feelings about an issue.
16. My partner showed respect for my feelings about an issue.
17. I threw, smashed or broke an object.*
18. My partner threw, smashed, or broke an object.*
19. I pushed or shoved my partner.
20. My partner pushed or shoved me.
21. I used a knife or gun on my partner.
22. My partner used a knife or gun on me.
23. I passed out from being hit on the head by my partner in a fight.
24. My partner passed out from being hit on the head by me in a fight.
25. I called my partner fat or ugly.
26. My partner called me fat or ugly.
27. I drove dangerously with my partner in the car.*
28. My partner drove dangerously with me in the car.*
29. I punched or hit my partner with something that could hurt.
30. My partner punched or hit me with something that could hurt.
31. I destroyed something belonging to my partner.
32. My partner destroyed something belonging to me.
33. I went to a doctor because of a fight with my partner.
34. My partner went to a doctor because of a fight with me.
35. I made threatening gestures or faces at my partner.*
36. My partner made threatening gestures or faces at me.*
37. I choked my partner.
38. My partner choked me.
39. I shouted or yelled at my partner.
40. My partner shouted or yelled at me.
41. I slammed my partner against a wall.
42. My partner slammed me against a wall.
43. I said I was sure we could work out a problem.
44. My partner said he or she was sure we could work out a problem.
45. I threatened to kill myself.*
46. My partner threatened to kill him/herself.*
47. I needed to see a doctor because of a fight with my partner, but I didn’t.
48. My partner needed to see a doctor because of a fight with me, but didn't.
49. I beat up my partner.
50. My partner beat me up.
51. I grabbed my partner.
52. My partner grabbed me.
___53. I threatened to kill my partner.*
___54. My partner threatened to kill me.*
___55. I stomped out of the room or house or yard during a disagreement.
___56. My partner stomped out of the room or house or yard during a disagreement.
___57. I slapped my partner.
___58. My partner slapped me.
___59. I had a broken bone from a fight with my partner.
___60. My partner had a broken bone from a fight with me.
___61. I suggested a compromise to a disagreement.
___62. My partner suggested a compromise to a disagreement.
___63. I shook my partner.*
___64. My partner shook me.*
___65. I burned or scalded my partner on purpose.
___66. My partner burned or scalded me on purpose.
___67. I accused my partner of being a lousy lover.
___68. My partner accused me of being a lousy lover.
___69. I did something to spite my partner.
___70. My partner did something to spite me.
___71. I threatened to harm or damage things my partner cares about.*
___72. My partner threatened to harm or damage things I care about.*
___73. I threatened to hit or throw something at my partner.
___74. My partner threatened to hit or throw something at me.
___75. I felt physical pain that still hurt the next day because of a fight we had.
___76. My partner felt physical pain that still hurt the next day because of a fight we had.
___77. I kicked my partner.
___78. My partner kicked me.
___79. I agreed to try a solution to a disagreement my partner suggested.
___80. My partner agreed to try a solution to a disagreement I suggested.
___81. I threatened someone my partner cares about.*
___82. My partner threatened someone I care about.*

*Items from the SVAW/MS. All unmarked items are originally from the CTS-2.
Appendix D

ROCI: Rahim’s Organizational Conflict Inventory

Listed below are statements that describe different things you might do to settle a problem or deal with a conflict with someone you are close to. Please indicate what you do when you deal with such conflicts by writing in the appropriate number in the blank beside each number. Please use the following scale:

1 = Never

2 = Almost Never

3 = Sometimes

4 = Almost Always

5 = Always

___ 1. I try to investigate the issue with the other person to find a solution acceptable to us.

___ 2. I generally try to satisfy the needs of the other person.

___ 3. I attempt to avoid being “put on the spot” and try to keep the conflict to myself.

___ 4. I try to integrate my ideas with those of the other person to come up with a decision jointly.

___ 5. I try to work with the other person to find solutions to the problem that satisfy our expectations.

___ 6. I avoid open discussion of my differences with the other person.

___ 7. I try to find a middle course to resolve the impasse.

___ 8. I use my influence to get my ideas accepted.

___ 9. I use my authority to make a decision in my favor.

___ 10. I accommodate the wishes of the other person.

___ 11. I give in to the wishes of the other person.

___ 12. I exchange accurate information with the other person to solve the problem together.

___ 13. I allow concessions to the other person.

___ 14. I propose a middle ground for breaking a deadlock.

___ 15. I negotiate with the other person so that a compromise can be reached.

___ 16. I try to stay away from the disagreement with the other person.

___ 17. I avoid an encounter with the other person.

___ 18. I use my expertise to make a decision in my favor.

___ 19. I often go along with the suggestions of the other person.

___ 20. I use “give and take” so that a compromise can be made.

___ 21. I am generally firm in pursuing my side of the issue.

___ 22. I try to bring all our concerns out in the open so that the issues can be resolved in the best possible way.
23. I collaborate with the other person to come up with a decision acceptable to us.
24. I try to satisfy the expectations of the other person.
25. I use my power to win a competitive situation.
26. I try to keep my disagreement with the other person to myself in order to avoid hard feelings.
27. I try to avoid unpleasant exchanges with the other person.
28. I try to work with the other person for a proper understanding of the problem.
Appendix E

SOPAS: Subtle and Overt Psychological Abuse of Women Scale

0 1 2 3 4 5
never once a great many times

Most of these things happen in all relationships. These are things your partner may do in a loving, joking or serious way. Choose a number from the above scale to show how often he does each thing.

HOW OFTEN DOES HE…

_____ play games with your head
_____ act like he knows what you did when he wasn’t around
_____ blame you for him being angry or upset
_____ change his mind but not tell you until it’s too late
_____ discourage you from having interests that he isn’t part of
_____ do or say something that harms your self-respect or your pride in yourself
_____ encourage you to do something then somehow make it difficult to do it
_____ belittle, find fault or put down something you were pleased with or felt good about
_____ get more upset than you are when you tell him how you feel
_____ make you feel bad when you did something he didn’t want you to do
_____ make you feel like nothing you say will have an effect on him
_____ make you choose between something he wants and something you want or need
_____ say or do something that makes you feel unloved or unlovable
_____ make you worry about whether you could take care of yourself
_____ make you feel guilty about something you have done or have not done

IN A LOVING, JOKING OR SERIOUS WAY, HOW OFTEN DOES HE…

_____ use things you’ve said against you, like if you say you made a mistake, how often does he use that against you later
_____ make you worry about your emotional health and well-being
_____ make you feel like you have to fix something he did that turned out badly
_____ put himself first, not seeming to care what you want
_____ get you to question yourself, making you feel insecure or less confident
_____ remind you of times he was right and you were wrong
_____ say his actions, which hurt you, are good for you or will make you a better person
say something that makes you worry about whether you’re going crazy
act like he owns you
somehow make you feel worried or scared even if you’re not sure why
somehow make it difficult for you to go somewhere or talk to someone
somehow keep you from having time for yourself
act like you over-react or get too upset
get upset when you did something he didn’t know about
tell you the problems in your relationship are your fault
interrupt or sidetrack you when you’re doing something important
blame you for his problems
try to keep you from showing what you feel
try to keep you from doing something you want to do or have to do
try to convince you something was like he said when you know that isn’t true
Appendix E

SOPAS: Subtle and Overt Psychological Abuse of Men Scale

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>never</td>
<td>once</td>
<td>a great many times</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Most of these things happen in all relationships. These are things your partner may do in a loving, joking or serious way. Choose a number from the above scale to show how often she does each thing.

**HOW OFTEN DOES SHE...**

- __ play games with your head
- __ act like she knows what you did when she wasn’t around
- __ blame you for her being angry or upset
- __ change his mind but not tell you until it’s too late
- __ discourage you from having interests that she isn’t part of
- __ do or say something that harms your self-respect or your pride in yourself
- __ encourage you to do something then somehow make it difficult to do it
- __ belittle, find fault or put down something you were pleased with or felt good about
- __ get more upset than you are when you tell her how you feel
- __ make you feel bad when you did something she didn’t want you to do
- __ make you feel like nothing you say will have an effect on her
- __ make you choose between something she wants and something you want or need
- __ say or do something that makes you feel unloved or unlovable
- __ make you worry about whether you could take care of yourself
- __ make you feel guilty about something you have done or have not done

**IN A LOVING, JOKING OR SERIOUS WAY, HOW OFTEN DOES SHE...**

- __ use things you’ve said against you, like if you say you made a mistake, how often does she use that against you later
- __ make you worry about your emotional health and well-being
- __ make you feel like you have to fix something she did that turned out badly
- __ put herself first, not seeming to care what you want
- __ get you to question yourself, making you feel insecure or less confident
- __ remind you of times she was right and you were wrong
- __ say his actions, which hurt you, are good for you or will make you a better person
- __ say something that makes you worry about whether you’re going crazy
_____ act like she owns you
_____ somehow make you feel worried or scared even if you’re not sure why
_____ somehow make it difficult for you to go somewhere or talk to someone
_____ somehow keep you from having time for yourself
_____ act like you over-react or get too upset
_____ get upset when you did something she didn’t know about
_____ tell you the problems in your relationship are your fault
_____ interrupt or sidetrack you when you’re doing something important
_____ blame you for his problems
_____ try to keep you from showing what you feel
_____ try to keep you from doing something you want to do or have to do
_____ try to convince you something was like she said when you know that isn’t true
Appendix F

Verbatim Script

“Hello, my name is Jenn Mills and I am doing research for my honor’s thesis. I need the help of some student couples for research in Intersensory Interference. This study will require you to fill out a few questionnaires, as well as to participate in a taste and vision exercise. Are you willing to participate? Yes? Then please fill out this consent form and I will explain the procedures in more detail after you are finished. You should know that all of your answers to the surveys and your responses in the study will be kept anonymous. You may obtain the results of the study, if you wish, through e-mail. If you would like to, please write your email address at the bottom of your informed consent form and you will be emailed late in the spring semester. You are also allowed to terminate your participation in this study at any time. Do you have any questions about the consent form?”

“No I will explain a little more about what we are studying. Intersensory Interference, or ISI, is an area of study that involves measuring the influence of one sense on another. For example, what a prick on your arm will do to your sense of sight. Previous research has shown that activating one sense will affect your response on a task involving another sense. Today, I am testing the influences that taste and touch have on visual perception. The reason that we have you come in as a couple is so that when we assess the effects of touch, it will be more comfortable to be touched by someone you know than by a stranger. We also want to be sure that any effect we see in the tactile portion of this study is not simply a reaction to having a stranger touch you. As previous research has shown, the touch of a stranger is perceived differently than the touch of someone you are familiar with, so in order to control for this we ask everyone to bring their significant other to be sure that everyone will experience the same touch. Before we start, do either of you have any food allergies?”

“We are going to begin in two separate rooms. You each will be tasting juice and completing mazes. One person will stay in this room, while the other follows me down the hall. While I get the cups for the taste portion, you can decide amongst yourselves who will stay here and who will go down the hall.”

(Researcher goes to filing drawer next to chair and looks in the top drawer. Previously have put five 8oz cups and five 12oz cups in the drawer.)

“Hmm, it seems that my research partner has forgotten to restock the cups. That is ok, one of you will just be using a smaller cup than your partner.”

(Researcher randomly decides which partner will get the large cups and which will get the small cups.)
“Ok, for this segment of the study you two will be in separate rooms. If one of you could follow me down the hallway I will take you to your room. You can leave your belongings here, you both will be returning to this room.”

(Take one partner to Room 1110 and casually ask them where they met. Then explain the paragraph below.)

“We are going to start by testing the potential effects of taste on visual processing. There will be four mazes for you to complete. They are located on the table infront of you, but each one is facedown. Please leave it face down and do not look at it until I tell you to do so. My research partner has made one of two juices for you to taste to see its influence on visual perception. One is a mild juice and the other is very tart. I don’t know which juice you have here because as the experimenter today, I must remain blind to the condition you are in. To further increase the validity of the study, I need you to pour some juice for your partner to drink on each trial. Please taste the juice so you know what it tastes like, but do not tell me what it is. As I will be the one to score your maze, I must not know how much juice you drink before completing the maze so that I am not biased when scoring it. To allot juice for your partner, please fill up as many of these small cups as you wish and pour them into the white cup (either the small cup or the large cup depending on partner) and then cover it with the foil provided for you. Before you cover it make sure you attach a post-it note to the bottom of the tin foil covering, so that your partner will know how much juice you have poured, but I will not see it. You may pour as much or as little juice for your partner as you would like on each trial. When you are finished, please write down the number of small cups that you poured for your partner on the index card provided. I’m going to explain all of this to your partner, while I am gone please pour the first cup of juice only. Only pour one, I will be back in a few moments to collect the juice and bring it to your partner.”

(Researcher leaves and returns to participant in room 1102. Ask this partner how they met. Then repeat the instructions in the paragraph above.)

(Researcher returns to participant in room 1110 and collects the juice. Then goes into room 1108 and switches the poured juice for the previously made juice. Then returns to room 1102 and reads the following paragraph to the participant.)

“Now that you have finished pouring the juice, here is the amount of juice that your partner poured for you. Before you drink this, let me tell you about the mazes. In this visual task, you must try to complete the maze without lifting your pencil or looking ahead to the end of the maze. You will be assessed on how far you came to completion of the task, the number of times you departed from a correct route, and the type of departure taken based on the commonality of the mistake. You will have three minutes to work toward completion of the task after you drink.
Do you understand? Okay, please drink the juice that your partner allotted for you and then begin the first maze.”

(Researcher takes the juice that was poured by the participant and leaves. Researcher stops by room 1108 and switches the juice poured for the previously allotted amount of juice and returns to the participant in room 1110. There the researcher explains the process of the mazes to the other participant, using the same script).

(Researcher comes back to first participant- in room 1102- with crackers and water.) “You may use this to cleanse your palate. I will be back in one moment, while I am gone please determine the amount of juice for your partner on the next trial. Remember, you should give your partner as much juice as you would like. I will go explain this process to your partner and will be back to collect the juice you poured in a minute.

This entire process will be repeated 4 times:
1st pour (unprovoked): explain to 1110 first, then to 1102. Collect juice from 1110, bring predetermined juice to 1102- collect juice, 1102 begins maze. Bring predetermined juice to 1110 and they begin maze. Then bring crackers/water to 1102, have them pour again. Bring crackers to 1110 and have them pour again.
2nd pour: Collect juice from 1102, bring predetermined juice to 1110- collect juice, 1110 begins maze. Bring predetermined juice to 1102 and they begin maze. Then bring crackers/water to 1110, have them pour again. Bring crackers to 1102 and have them pour again.
3rd pour: Collect juice from 1110, bring predetermined juice to 1102- collect juice, 1102 begins maze. Bring predetermined juice to 1110 and they begin maze. Then bring crackers/water to 1102, have them pour again. Bring crackers to 1110 and have them pour again.
4th pour: Collect juice from 1102, bring predetermined juice to 1110- collect juice, 1110 begins maze. Bring predetermined juice to 1102 and they begin maze. Then bring crackers/water to 1110, have them pour again. Bring crackers to 1102 and have them pour again.
5th pour: Collect juice from 1110, but there are no more mazes to complete. Tell them to relax for a moment. Collect juice from 1102, but there are no more mazes to complete. Tell them to relax for a moment.

(After last pour.) “Okay, we are running a bit short on time, so we are going to move on to the next part of the experiment in order to make sure there is time for everything. In order to control for individual differences in visual-spatial abilities there is one more task I need you to complete. Please come with me.”

(Researcher takes both participants to the hallway and places them exactly 20 feet apart and gives them a yard stick.)
“In order to assess your visual-spatial ability I need both of you to estimate how far apart you are; you may use the yardstick as a reference. Please write down your estimate on the index card I give you.”

(After they have completed that, move them to another section in the hall and set them exactly 20 feet apart from a cone).

“Once again, please estimate how far you are from the cone and use the yardstick as a reference. When you are finished please write down your estimate on the piece of paper.”

(Make sure to randomize the order of estimation: sometimes do cone first, sometimes do partners).

(When they are finished, take them back to their individual rooms).

“We need to wait a little longer so the juice does not create intersensory interference with the tactile perception in the next part of the study. While we wait, please fill out these questionnaires. When you are finished, please come out into the hallway, I will be waiting for you there. You may leave the questionnaires on the table when you are finished.”

(Wait for both participants to return to the hallway, then bring both partners into room 1102).
Appendix G
Informed Consent Form

This is to certify that I understand the following information with respect to my participation in Jennifer Mills’s study, under the supervision of Dr. Constance Pilkington:

1. I understand that I will be asked to complete tasks related to touch, taste, and vision.

2. I will also be asked to answer a number of questions regarding my experience to the study today and my relationship.

3. I understand that some of these questions are personal in nature, and I may choose not to answer any questions I find objectionable.

4. In order to make this study a valid one, some aspect of this study will not be explained to me until after I have completed my participation.

5. I understand that my responses will be confidential and will not be shown to anyone, including my dating partner.

6. My name will not be associated with my responses or any part of this study.

7. My participation will take approximately one hour.

8. I may experience some discomfort depending on the sensory experience I might have. However, I understand this discomfort is temporary and will dissipate upon completion of my participation today.

9. If I am currently enrolled in PSYC 201 or PSYC 202 (or am finishing my participation requirement from last semester), I will receive 1 credit hour towards my research participation requirement. No other incentives will be offered.

10. I understand that I must be at least 18 years old to participate and that my participation in this study is voluntary. I may terminate my participation at any point in time without penalty.

11. Questions regarding the research should be directed to Dr. Constance J. Pilkington (cjpilk@wm.edu, 757-221-3875) or Jennifer Mills (jlmills@email.wm.edu). Questions or concerns regarding participation in this research should be directed to the Chair of the Protection of Human Subjects Committee, Lee Kirkpatrick (lakirk@wm.edu, 221-3997).

I agree to participate in this study and have read all the information provided on this form.

Name (please print): ______________________________________

Signature: ___________________________________________ Date: __________________
Appendix H
Appendix H
Appendix I

Debriefing (read to participants)

“Oh, this is actually the end of the study. We will not be doing anything with touch; I would like to tell you what we are really studying. The study is not actually about intersensory interference, as far as we know, no such thing exists. We used this as a way to give you varying amounts of that juice. We are trying to get a sense of the dynamics of close relationships. In every type of close relationship there is a time in which one partner behaves badly towards the other. For example, we have all said things or done things that have hurt our partner. Most of the previous research on this topic has been in the form of surveys. Surveys have the problem of self reporting bias, which is when a person reports on their behavior differently in order to make themselves look better. An example of this would be when a couple gets into an argument and one of them leaves slamming the door, that partner may report the incident in a more appealing manner and not report an accurate representation of what he/she really did. The idea is for us to assess this in a laboratory setting.”

“The goal of this study is partly to gauge a person’s reaction to the negative behavior of his or her partner, to examine the dynamics of power in relationships, and to see how accessible your aggressive thoughts were once you were provoked. We used the cover of ISI as a means for justifying why you gave juice to one another, but we were the ones who actually manipulated how much juice was given to each of you. Basically, we poured different amounts of the juice ourselves and gave it to you under the guise that it was from your partner. That way, we could see the way that you reacted to the amount of the bad juice that was given to you. Depending on the amount that we gave you, we measured how much you poured for your partner on the next round. The big and small cups were used to manipulate who has power in the relationship. For example, if you had the big cups, you were able to pour more juice for your partner because more would fit into the cup, thus giving you more power. We want to see what factors predict more or less negativity to a partner’s bad behavior. The reason we had you fill out the mazes was as a distracter task, they actually serve no purpose but to enforce our cover story.

“Again, I would like to stress that I was the one determining how much juice you would have to drink. Your partner DID NOT decide this. It is understandable if you were angry at your partner because we designed the study to be that way. However, please do not continue to be angry with your partner as they did not determine how much juice you would drink. Also, your partner has no idea how much juice you chose for them because they never received it.”

“There was one other part of the study in which we tested whether being angry at your partner would affect how far away you thought they were; this is why we had you stand out in the hall and estimate the distance between you and your partner. We had you also estimate the distance between you and the cone to use as a control.”
“Does all of this information make sense? Does anything need further clarification? Did either of you suspect anything at any time during the study? Do you have any questions?”

“I have one favor to ask of you before you leave. Please do not tell anyone about the true nature of this study or what you were asked to do during it. People might ask, and if they know what it is about, and know that we are allotting the juice, it would probably affect the way future participants act and our data would be useless. If someone does ask you what you did in this study, please inform them that you complete some word fragments and filled out some questionnaire. Okay? Thanks!”

“If there are not more questions you are free to leave. Thank you again for your participation. Have a nice day!”