DEVELOPING A MODEL OF JEALOUSY EXPRESSION AND MANIFESTATION IN ORGANIZATIONAL SETTINGS WITHIN SAME- AND MIXED-SEX TRIADS

by

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ABSTRACT

In prior literature, jealousy has been conceptualized as a response to a threat of losing benefits in a relationship (romantic or nonromantic) with same-sex or opposite-sex partner due to a rival's interference (Bringle, 1991; Buunk, Goor, & Solano, 2010). Despite being seemingly applicable to a wide range of situations (e.g., jealousy evoked in the organizational settings), jealousy predominantly has been studied in the context of romantic relationships. This gap in the literature is unfortunate for two reasons. First, of 278 employees surveyed from approximately 200 companies, 29% reported that they have experienced jealousy over the past year (Miner, 1990), thus suggesting that this is a prevalent phenomenon. Second, feelings of jealousy have been linked to negative outcomes, such as retribution and aggression toward both the partner and the rival (Bryson, 1991), thus highlighting the need to study conditions when these negative outcomes occur.

In this dissertation, I theorize about the origins and the manifestations of jealousy in the workplace. In particular, I argue that the outcome of the process, through which people compare the benefit types they and their rival provide to the partner, serves as the precursor to jealousy. I further theorize how these benefit types vary by gender and make predictions about levels of jealousy in same- and mixed-sex triads. Finally, I speculate on the gender differences in the levels and manifestations of jealousy and propose a moderator accentuating these differences. Through three studies – hypothetical scenario,

laboratory, and field – I find mixed support for my hypotheses. In general, I find that jealousy is experienced more intensely to the extent that a person's rival is the same – rather than different – gender as the person. Further, in situations when the genders of the person's rival and the person are different, male rivals elicit greater jealousy than female rivals. Finally, I find that females react to jealousy more aggressively than males, especially when they were in a working relationship with an individual who was the same – rather than the opposite – gender. I conclude by discussing these findings as well as the limitations and directions for future research.

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CHAPTER 1

INTRODUCTION AND THEORETICAL BACKGROUND

In prior research, jealousy has been conceptualized as a response to a threat of losing benefits acquired through one's relationship with a partner, whether romantic or otherwise, due to a rival's interference (e.g., Buunk, Goor, & Solano, 2010; Bringle, 1991). In other words, imagine a situation where person A has enjoyed receiving benefits (e.g., money, attention, status) as a result of his/her relationship with person B. Suppose then person B begins a relationship with person C, in which person C receives similar benefits from person B. In this situation, person A might experience jealousy if person A believes that the newly established relationship between persons B and C might jeopardize person's A ability to receive benefits from person B.

Before proceeding any further, it is important to distinguish jealousy from several related constructs. In academic research, as addressed above, jealousy is experienced when one has the fear of losing benefits accrued in relationship with a partner to a rival. In ordinary speech, however, the term *jealousy* is often used to denote negative feelings toward another individual who has some attribute or object that one finds desirable (e.g., Salovey & Rodin, 1984). This usage of the word "jealousy" is incorrect because such feelings are more appropriately labeled as a "social-comparison jealousy" (Bers & Rodin, 1982) or envy (Parrott, 1991; Parrott & Smith, 1993; Schoeck, 1969) – an emotion experienced when a person lacks what another has, such as a superior quality,

achievement, or possession and either desires it or wishes that the other did not have it. In organizations, envy is strongly associated with acting hostilely, creating a negative work atmosphere, and harming the reputation and performance of another, all of which are aimed at improving one's position relative to another employee (Cohen-Charash, 2009), Furthermore, these behaviors are especially prominent among individuals with high self-esteem and in the context of high perceived unfairness (Cohen-Charash & Mueller, 2007).

There are two key distinctions between envy and jealousy (Ben-Ze'ev, 1990). First, whereas envy stems from *wanting* something that one does not have, jealousy occurs when one *does not want to lose* something that one already has (i.e., a close relationship). Second, whereas envy stems from feeling inferior in relation to another person with regard to any kind of possession – such as a personality trait, a physical appearance, or a material possession – jealousy necessarily and exclusively occurs in the context of relationships when a person is fearful of losing a coveted relational resource (i.e., the attention of his or her partner) to another individual (i.e., a rival). A way to distinguish between these emotions is to consider the number of people involved in this emotional experience: whereas envy is elicited within a dyad (i.e., oneself and a person who is better off), jealousy is elicited within a triad (i.e., oneself, one's relationship partner, and a rival). It is important to add, however, that although envy and jealousy are distinct constructs, it is not implausible that the two may occur at the same time. For example, while feeling jealous of the partner, who allocates the time and other benefits to another individual (i.e., a rival), the focal person may also feel envious of the rival who is receiving more of these benefits than he or she does.

In addition to envy, jealousy is also often confused by lay people with other related constructs, such as competition and ostracism/exclusion. Both ostracism/exclusion and competition play an important role in eliciting jealousy but do not fully explain it. For example, whereas competition could be evoked in a wide variety of settings, jealousy involves a specific kind of competition with a rival (Ben-Ze'ev, 1990) stemming from the desire to be favored in some respect and belief – or a fear – that one is not. Similarly, ostracism (or rejection or exclusion, constructs often used interchangeably; Williams, 2007) also can lead to feelings of jealousy (DeSteno, Valdsolo, & Bartlett, 2006; Harmon-Jones, Peterson, & Harris, 2009; Leary, 1990; Williams, 2007). Jealousy, however, is only one of the possible responses to ostracism (with other responses including distress, sadness, anger and hurt feelings; for full review on other responses, see Williams, 2007) elicited when the focal person has an existing valued relationship with the person who rejects him or her (e.g., DeSteno et al., 2006). More specifically, jealousy (rather than another negative affective state, such as anger) is evoked when an individual is motivated to protect the integrity and exclusivity of a relationship.

Despite being seemingly applicable to a wide range of situations (e.g., jealousy evoked in the organizational settings), jealousy predominantly has been studied in the context of romantic relationships. Although almost completely overlooked in organizational studies (for exceptions see Buunk et al., 2010; Buunk, Zurriaga, Gonzalez, & Castro-Solano, 2012; Dogan & Vecchio, 2001; Vecchio, 1997; Vecchio, 2000), jealousy seems to be an extremely prevalent phenomenon in organizations. Miner (1990) conducted a survey of 278 employees from approximately 200 companies asking them to comment on their experiences with workplace jealousy as (1) someone who stopped

allocating the resources to one person and then began allocating them to someone else (i.e., benefit provider or person B as described above), (2) someone who began receiving resources from another person (i.e., benefit recipient or person C as described above), and (3) someone who has personally been jealous of a co-worker in the organization context (i.e., person A as described above). For a one-month period, 58% of the respondents reported that they were involved in a jealous situation as a benefit provider or recipient, and 29% revealed that they had been jealous of another person.

That jealousy occurs in organizations is further supported by several on-line forum threads started by victims of jealousy who experienced negative treatment from their co-workers. For instance, one woman working as an activity director for an assisted living facility commented on the article, "When Other Women Hate You Because You're Beautiful" on the Ms-JD.org website, which is dedicated to female lawyers and used by female professionals:

> On several occasions I was harassed in the employee parking lot by a co-worker who intentionally drove by me in an intentional threatening and hostile manner. I knew all of this was driven by jealousy. I am very attractive and they feared I like the male therapist (to whom other women felt attracted). I in no way wanted to sleep with the male therapist; I am a Christian woman who is married with children and take my vows seriously. After 7 months of harassment from one particular woman, I filed a complaint and submitted it to Human Resources expressing my job could not be completed because I was prohibited from fulfilling my job duties because of this hostile behavior (nicegirl81, 2007).

In this example, nicegirl81 is perceived as the rival (person C) by her female co-worker (person A) who felt jealous because she was competing with nicegril81 for the attention of the male therapist (person B; the partner). However, jealousy in organizations is not limited to a "one male manager – two female employees" triad. In fact, jealousy might also be experienced by an individual involved in a professional relationship with a

same-sex individual. For example, a female mentee might feel jealous when she starts losing valued outcomes or benefits acquired through her relationship with her female mentor to another female (i.e., a rival). This type of jealousy has been demonstrated by a thread started in a popular forum "ask.metafilter.com." In this thread, "a newcomer to an "all-women workplace" (thatgirl1985) seeks advice on how to deal with her co-workers who, according to her, are experiencing jealousy due to her usurping their relationship with the female manager. Specifically she writes:

> How should I handle this tricky situation at work? My boss has taken me under her wing to guide me on the path of success. I feel she did this because I was open to her assistance. We have now developed a friendly "quid pro quo" type of agreement. She assists me by sharing her expertise on certain work-related items and vice-versa. …Some of my closest colleagues are feeling insecure about my friendly and close relationship with our boss. It seems like they feel threatened by it (thatgirl1985, 2012).

The scholarly literature on workplace jealousy is limited to the work of Miner, Vecchio and Buunk, and their respective colleagues. While Miner (1990) was first to document the wide prevalence of episodes of jealousy in organizational settings (as discussed above), Vecchio (1997) was first to describe workplace jealousy and its consequences as well as to provide a research agenda for studying workplace jealousy. Notably, among one of the research directions identified by Vecchio is studying the differences between the genders in reports of jealousy. Subsequently, in his empirical article (2000), Vecchio tested some of his hypotheses and found, for example, that workplace jealousy is positively correlated with Machiavellianism, feeling a lack of control, propensity to quit, and having a competitive reward system, and negatively correlated with self-esteem (global as well as organization-based), worker autonomy, and supervisor considerateness. The last of Vecchio's work on jealousy was a review chapter

(Dogan & Vecchio, 2001) geared toward practitioners. The chapter outlined several possible organizational causes (e.g., generational conflicts and diversity in the workplace) and manifestations (e.g., sabotaging the rival and reclaiming the close relationship) of jealousy, and discussed potential ways of preventing jealousy (e.g., considering emotional maturity of job applicants and instituting incentive system that supports cooperation).

Compared to Vecchio, who related jealousy to organizationally-relevant outcomes and personality characteristics, Bram Buunk (e.g., Buunk, Goor, & Solano, 2010; Buunk et al., 2012) adopted an evolutionary approach to studying jealousy in the workplace, which argues that jealousy has "evolved to alert the individual to take action to prevent a mate from being unfaithful and from abandoning the relationship" (p. 672). By asking participants to read a scenario wherein the relationship with a supervisor is usurped by a rival (of the same sex as the participant) and to respond to follow-up questions, Buunk and colleagues (2010) have attempted to identify the physical and status-based characteristics of the rival that would elicit strong feelings of jealousy. They predicted that to the extent that the rival possesses more evolutionarily desirable characteristics, jealousy will be stronger. They found that among women, rival's communal attributes (e.g., being better listener than the focal person) and attractiveness evoked the most jealousy, whereas a rival's social and physical dominance (e.g., having more authority than the focal person) evoked the strongest feelings of jealousy in men. These relationships were also augmented to the extent that participants were high in intrasexual competition (i.e., an individual difference causing individuals to view contact with same-sex individuals in competitive terms). Similar results were found when the same

hypothetical scenario was administered to a group of 144 employees from various professional fields (Buunk et al., 2012).

The abundance of references to workplace jealousy in forum threads and almost the complete omission of organizational scholarly research on the topic suggest that this is an open territory for exploring the antecedents, experience and outcomes of jealousy in organizational settings. Indeed, the omission of research on jealousy from the organizational literature is unfortunate because in prior research, jealousy was found to lead to further negative affective outcomes, such as emotional devastation, as well as behavioral outcomes, such as retribution and aggression toward both the partner and the rival (e.g., Bryson, 1991). By knowing the triggers of jealousy and conditions under which people will respond to jealousy with inappropriate behaviors, managers would be able to anticipate these situations and, thus, diffuse them by implementing the appropriate interventions. Occurring within the organizational settings, such negative responses to jealousy are likely to be detrimental to both the performance of targets of these behaviors (i.e., the partner and the rival) and organization as a whole, as suggested by Dogan and Vecchio (2001). For example, according to the stressor model (Barling, 1996), workplace aggression depletes the cognitive and emotional resources of an employee victim, which in turn leaves him/her with less emotional and cognitive energy to perform the work tasks. Thus in organizations where jealousy is a prevalent phenomenon, the rate of negative manifestations of jealousy might also be high, leading to decrements in performance of multiple employees and, the performance of the organization as a whole. On the other hand, jealousy has also been found to lead to positive reactions, such as jealous person's attempts to improve the relationship with his or her partner by helping

him or her complete a particular task (Guerrero, Andersen, Jorgensen, Spitzberg, & Eloy, 1995). As such, it is important to investigate which conditions elicit jealousy in employees and, further, determine when these feelings will lead to negative behavioral reactions and when they will lead to positive behavioral reactions.

In this dissertation, I will build off of the existing literature on romantic and organizational jealousy and propose a general model of how jealousy unfolds in organizational settings. Although cases of organizational jealousy could include individuals from both inside and outside the organization, in this dissertation I focus on cases where each individual of a jealousy triad is a member of the same organization. I will draw upon research identifying the types of benefits with which relationship partners typically provide each other in work relationships (e.g., Baumeister & Vohs, 2004; Fombrun, 1982; Kanter, 1983) and make an argument that jealousy will be more intense to the extent that the focal person believes that rival is able to substitute the contribution of the focal person to the partner by providing the partner with *qualitatively the same* (vs. *different*) *type of* benefits as does the focal person (i.e., the "substitutability effect"). Relying on the literature on gendered organizations (e.g., Acker, 1992), I will also explain how gender aligns with the types of benefits a person is expected to provide and describe how the substitution effect plays out in triads of different sex compositions.

In situations where the types of benefits provided by a rival and a focal person are *qualitatively different* from each other (e.g., rival provides advice while focal person provides social support), jealousy will be more intense to the extent that the focal person believes that the benefits provided by the rival are more coveted in the workplace than those provided by the focal person (i.e., "benefit-desirability effect"). After discussing

both the substitutability and the benefit-desirability effects, I then discuss the conditions under which the substitutability and the benefit-desirability effects interact and predict their simultaneous effect on the intensity of jealousy.

Finally, I draw from the literatures on (1) gender differences in behaviors following situations in which one partner betrays another (e.g., Nadler & Dotan, 1992) and (2) differences between cross- and same-sex relationships (e.g., Fuhrman, Flannagan, & Matamoros, 2009) to predict how jealousy might manifest in triads of different sex compositions. In particular, I will compare how aggression toward the rival, aggression toward the partner, and efforts to repair the relationship with the partner differ across triads of varying sex-compositions. In sum, the research question I plan to undertake involves exploring the intensity and the behavioral manifestations of jealousy evoked in triads of different sex-compositions.

The current research is intended to make three important contributions. First, enriching our understanding of the role emotions play in the workplace, the dissertation would contribute to the early efforts to study the phenomenon of organizational jealousy by outlining and testing a general framework of how jealousy might develop in the workplace. Whereas previous work (e.g., Buunk et al., 2010) has focused on how the specific attributes of the rival contribute to the focal person's feelings of jealousy, the framework proposed here focuses on the comparison process as the elicitor of jealousy through which the focal person compares himself/herself to the rival in terms of the potential benefits each of them provides to the partner. Second, the framework would explain how and why the intensity of jealousy changes depending on the gender composition of the individuals involved in the jealousy-evoking situation. Different from

previous work on workplace jealousy examining the role of gender, the current investigation will not only examine jealousy across triads of *various* sex-compositions (vs. triads where the gender of the focal person and the rival is the same, such as in the paper by Buunk and colleagues, 2010), but will also test the hypotheses in a confederate-employed laboratory design as well as an organizational survey (vs. the scenario studies as was done by Buunk and colleagues, 2010). Finally, the current work will explain the origin of some counter-productive and pro-social workplace behaviors, such as aggression towards colleagues and acts of helping (Bryson, 1991). As such, by studying the conditions under which jealousy is most intensely experienced and behaviorally manifested in a negative manner, we, both as scholars and practitioners, can learn to anticipate such occurrences and, if possible, prevent them.

Although different types of jealousy are similar in many regards, differences between them do, nevertheless, exist. Because the majority of research has been done on romantic jealousy, I first will discuss the existing literature on romantic jealousy and will then theorize how workplace jealousy is similar and different from the romantic jealousy.

Emotion of Jealousy: Review of Existing Literature on Romanic Jealousy

Definition

Jealousy, or the "green-eyed" monster as described by Shakespeare, has been referenced for hundreds of years in classic literature (e.g., Shakespeare's *Othello*, Tolstoy's *The Kreutzer Sonata,* and Trollope's *He Knew He Was Right*, to name a few). Jealousy finally became the focus of scholarly attention with Clanton and Smith's (1977) compilation of several previously published essays on jealousy by earlier academic and

nonacademic writers. Although the topic has been explored in a variety of disciplines ranging from economics (e.g., Dupor & Liu, 2003) to evolutionary psychology (e.g., Buss, 2000), relying upon different frameworks, researchers generally have agreed on the main features of the construct: 1) an existing relationship with another individual from whom one receives benefits (e.g., attention, monetary help, technical help, etc.) and 2) the presence of a rival, who presents a threat to these resources (e.g., Bringle, 1991).

Origin and Emotional Experience of Jealousy

An adaptive view of emotions theorizes that emotions serve a functional purpose by increasing the success with which an organism overcomes challenges through directing cognition and behavior toward certain outcomes (e.g., Frijda, 2000; Keltner & Gross, 1999; Lazarus, 1991; LeDoux & Phelps, 2000). Jealousy is not an exception. Given the evolutionary benefits provided by relationships, such as protection, resources, reproduction, and social support, competition for these benefits and, therefore, feelings of threat followed by jealousy could frequently arise (Salovey, 1991); for example, when a rival attempts to "steal" another person's partner from the person (and thus threatens the resources provided by that person's partner to the person). In fact, the painfulness of a jealous experience is directly proportional to the magnitude of threat posed by the rival (Parrott & Smith, 1993; Sharpsteen, 1991). As such, to the extent that the threat is substantial, strong feelings of jealousy would likely prompt the individual to take the immediate action in responding to this threat.

With respect to the experience of the emotion itself, researchers agree that jealousy is quite aversive, and is thought to combine within itself several negative emotions (Bringle & Buunk, 1985; Bringle & Williams, 1979; Buck, 1999; Buunk &

Bringle, 1987; Clanton & Smith, 1977; Hartfield & Walster, 1977; Hupka, 1981, 1984; Sharpsteen, 1991; Sharpsteen & Kirkpatrick, 1997; White & Mullen, 1989; for an exception, see Sabini & Silver, 2005). For example, White and Mullen have described several clusters of jealousy-related emotions including: (1) the anger cluster containing hate, contempt, and annoyance, (2) the fear cluster containing anxiety, tension, worry, and distress, (3) the sadness cluster containing depression and hopelessness, and (4) the guilt cluster containing guilt, regret and embarrassment. More recently, Guerrero and Andersen (1998) proposed another cluster – positive affect, containing emotions of love, attraction, and appreciation. Although researchers differ with regard to which emotions exactly comprise jealousy, two emotions on which they largely agree are anger and fear.

A natural question then arises: why create a label for a compound emotion? With respect to jealousy, specifically, the answer has to do with the difference between labeling and describing an emotion: whereas anger and fear describe the emotional state, jealousy explains it (Hupka, 1984). That is, the simultaneous experience of fear and anger could be elicited in many situations that involve social rejection, such as ostracism from a group or a refusal of admission to a group; however, jealousy can only be expected to arise in a triadic relationship pattern described above. Put simply, individuals experiencing fear and anger would describe their emotional state as jealousy only in a situation when they perceive a threat to benefits they receive from their relationship partner.

Elicitors of Jealousy

There are several papers that address factors contributing to an individual's perception of threat to benefits or resources they receive from a relationship partner (e.g.,

Dijkstra & Buunk, 1992; Pines & Aronson, 1983; Theiss & Solomon, 2006). Generally, the elicitors of jealousy fall under five categories: 1) individual differences of the jealous person, 2) the value the jealous person places on the relationship with a partner, 3) jealous person's perceptions of the partner's behaviors, 4) the jealous person's perceptions of the rival, and 5) culture. I review research pertinent to each category below.

The first category of the elicitors of jealousy focuses on the individual differences. Most research in this category has examined the association between attachment style and romantic jealousy (e.g., Barnet, Martinez, & Bluestein, 1995; Holtzworth-Munro, Stuart, & Hutchinson, 1997; Knobloch, Solomon, & Cruz, 2001; Sharpsteen & Kirpatrick, 1997). For example, Knoblock and colleagues (2001) found that that individuals with an anxious attachment style (resulting from being unable to use one's caregiver as a secure base causing that individual to seek proximity before separation occurs) experience greater levels of jealousy than those with secure attachment pattern (resulting from being able to use one's caregiver as a secure base) or avoidant attachment pattern (resulting from situations when the caregiver consistently rejected the infant).

Another category of jealousy elicitors has to do with the value the focal person places on his or her relationship with the partner. For example, Bringle (1991) suggested that a focal person's commitment to relationship in general, high expectations for future outcomes, fear of outcome loss, and insecurity about the partner's commitment to the relationship all contribute to jealousy. Similarly, Salovey and Rodin (1985) proposed that jealousy is experienced more strongly by those individuals who place great value on their

current relationships and on exclusivity. Moreover, Buunk's research (1981, 1991) shows that jealousy is also influenced by the degree to which an individual's partner has the ability to control and affect that individual's outcomes.

Several empirical and conceptual papers also have discussed how a partner's behaviors, as perceived by the jealous person, influence the extent of jealousy. For example, in a survey asking people to rate the extent to which certain behaviors evoke jealousy, Pines and Aronson (1983) found that jealousy is the strongest when a partner had a sexual relationship with a rival, disappeared for a long time, talked, danced, or flirted with a person of opposite sex. Subsequent research, however, has found that males, compared to females, experience stronger feelings of jealousy when their partner cheats on them sexually while females, compared to males, experience more jealousy when their partner cheats on them emotionally (e.g., Buss, Larsen, & Westen, 1996; Buunk, Angleitner, Oubaid, & Buss, 1996; Guadagno & Sagarin, 2010; Sagarin, 2005, for exception, see Harris, 2003). Other partner behaviors proposed to trigger jealousy include a partner's decreased effort to maintain emotional closeness in the relationship (Theiss & Solomon, 2006) and partner's behaviors toward the rival that are intentionally directed toward him or her (e.g., flirting with the rival, as opposed to the rival flirting with the partner), sexual, and overt in nature (Bringle, 1991).

With regard to the jealous person's perceptions of the rival – the fourth category of jealousy elicitors – Pines and Aronson (1983) found that feelings of jealousy were strong when the jealous person knew the rival and had a high opinion of him/her. Similarly, DeSteno and Salovey (1996) found that jealousy is experienced when a rival excels in a domain that is central to the jealous person's identity (e.g., athletic ability) and

shares a close relationship with the jealous person's partner. Several empirical papers have found that women tend to get jealous when the rival is attractive (e.g., Buunk & Dijkstra, 2004; Buunk et al., 2010; Dijkstra & Buunk, 2002; Massar & Buunk, 2010; Plant, Kuntsman, & Maner, 2010), while men tend to experience jealousy when their rival appears to have characteristics indicative of physical dominance, such as physical strength and being good at sports, and social dominance, including a good job and wealth (e.g., Buunk & Dijkstra, 2004; Buunk et al., 2010; Dijkstra & Buunk, 2002). Surprisingly, whereas there has been some research on the perceptions of rivals (see above), previous literature has not examined the kinds of behaviors in which rivals engage that would elicit jealousy.

Lastly, the culture within which individuals live also appears to influence jealousy. For instance, Clanton (2006) gives an example of Yurok Indians whose societal norm is to get jealous if a man asks another man's wife for a cup of water. This instance of jealousy could interestingly be juxtaposed with that of Eskimo societies, where men lend their wives freely to overnight guests. The cultural norm for jealousy can also vary within a single culture over time. For example, Clanton's (2006) analysis of articles in popular magazines in the U.S. during the 1940 through 1960s revealed that jealousy in relationships was depicted as natural, proof of love, and good for marriage, but the norm changed by the 1970s when the appropriateness of jealousy was questioned. For instance, jealousy was no longer seen as the proof of love, rather it was seen as the evidence for low perceptions of self-worth and unhealthy for relationships.

Manifestations of Jealousy

Jealousy is experienced in response to a threat to a valued relationship with a partner posed by a rival, and is usually coupled with affective responses and followed by behavioral responses. In his chapter on jealousy, Bryson (1991) reviewed the results of a factor analysis of possible responses to jealousy and identified nine factors, including emotional devastation (e.g., cry when I'm alone), aggression (e.g., become aggressive toward rival), reactive retribution (e.g., flirt with others), relationship improvement (e.g., make myself more attractive toward partner), and social support seeking (e.g., talk to close friends). More recent work on the manifestations of jealousy has largely confirmed the results of this factor analysis (e.g., DeSteno et al., 2006; Guerrero et al., 1995).

Summary

In sum, it appears that jealousy has cognitive, emotional, and behavioral components. To experience jealousy, one must appraise the situation and realize that the benefits received from a relationship partner are threatened by a rival (i.e., cognitive component). The research reviewed above shows that several factors, such as rival characteristics and individual differences, affect the appraisal of the situation as threatening (e.g., Bringle, 1991). Affective component may occur concurrently with the cognitive component, as demonstrated by White and Mullen (1989) who show that the discrete emotions (e.g., anger, sadness) comprising jealousy experiences and thoughts about the situation influence each other, or it may follow the cognitive appraisal and lead, for example, to devastation, as demonstrated by Bryson's review (1991) on affective manifestations of jealousy. The affective component may also prompt behavioral responses to jealousy, such as acting aggressively toward the rival (i.e., behavioral

component). In other words, rather than being classified as a discrete emotion, jealousy is better classified as an emotional schema – a dynamic interplay of emotion, appraisals, higher-order cognition, and motivation (Izard, 2007).

Having reviewed the existing research on jealousy conducted mostly within the context of romantic relationships, I next discuss how jealousy might unfold in organizations. Specifically, I examine attributes and processes associated with jealousy in organizational settings and speculate on how they might differ from those associated with romantic jealousy.

Jealousy in Organizational Relationships

Types of Triads

In organizations, jealousy can be elicited within triads of any gender composition, as suggested by countless Internet threads started by jealous employees or victims of employee jealousy (e.g., Lloyd, 2013; thatgirl1985, 2012) and as well as advice articles on how to combat jealousy at work (e.g., Bruzzese, 2012; Mason, 2012). Furthermore, workplace jealousy can be elicited within both romantic relationships, which are quite prevalent in organizations (e.g., Dillard & Whitteman, 1985; Mainiero, 1998; Quinn, 1977; Schultz, 2002) as well as professional relationships.

Jealousy that emerges in professional *cross-sex* relationships between the focal person and the partner may occur, for example, when a female rival interferes with a working relationship between a man and a woman by "targeting" (i.e., seeking attention from) the man (Table 1: Triad 1). In this situation, the woman in the relationship can potentially get jealous that all the benefits (e.g., help on the job) she previously received from her male companion might now be appropriated by her female rival. Other

Table 1. Types of Triads Potentially Involved in Jealous Situations in Organizations

	Focal Person's Gender	Partner's Gender	Rival's Gender	Type of Triad
Cross-Sex Relationship	Female	Male	Female	Triad 1
	Male	Female	Female	Triad 2
	Female	Male	Male	Triad 3
	Male	Female	Male	Triad 4
Same-Sex Relationship	Female	Female	Female	Triad 5
	Female	Female	Male	Triad 6
	Male	Male	Female	Triad 7
	Male	Male	Male	Triad 8

combinations of triads wherein a rival interferes with a cross-sex relationship involve: a female rival targeting a woman in the relationship (Table 1: Triad 2), a male rival targeting a man in the relationship (Table 1: Triad 3), and a male rival targeting a woman in the relationship (Table 1: Triad 4).

By extension, jealousy that emerges in professional *same-sex* relationships may occur, for example, when a female rival interferes with a working relationship between two women. In this situation, one of the women in the relationship might get jealous that the benefits she received from her female companion (e.g., social support), might be appropriated by the female rival (Table 1: Triad 5). Other combinations of triads where a rival interferes with a same-sex relationship involve a male rival targeting a woman in the relationship (Table 1: Triad 6), a female rival targeting a man in the relationship (Table 1: Triad 7), and a male rival targeting a man in the relationship (Table 1: Triad 8). Further in this chapter, I will examine the intensity of jealousy that might be elicited within all eight

of these triads and how this emotion will manifest behaviorally. Now, however, I turn to the discussion about the trigger of organizational jealousy.

Comparison Process as a Precursor to Organizational Jealousy

In the review of the literature on jealousy within romantic relationships, I discussed five categories of the elicitors of jealousy: the jealous person's perceptions of a rival's characteristics, the jealous person's individual differences, the jealous person's perceptions of partner's behavior, the value placed on the relationship by the jealous person, and culture. Out of those elicitors, I will focus on the focal person's perceptions of a rival's characteristics for three reasons. First, this elicitor has been investigated most thoroughly conceptually (e.g., DeSteno & Salovey, 1996) and experimentally (e.g., DeSteno et al., 2006), thus allowing me to build my arguments on a more solid foundation. Second, the papers proposing and testing this elicitor have done so within the context of general nonromantic relationships (DeSteno et al., 2006; Desteno & Salovey, 1996), thus demonstrating that rival's characteristics elicit jealousy across a variety of contexts, not just within the context of romantic relationships. Third, and most importantly, the presence of a rival is one of the two necessary and defining conditions[1] for the experience of jealousy (concern for termination of a valued relationship without rivalry will likely result in anger or sadness). As such, to ignore rival's characteristics would be to not to explore the phenomenon in depth. The other elicitors, while potentially important contributors to workplace jealousy, thus are outside the scope of this dissertation.

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[1] The other necessary and defining condition is the presence of a partner. This elicitor, however, is outside the score of this dissertation.

Rather than focusing exclusively on the rival's characteristics, I draw upon the comparison process proposed by DeSteno and Salovey (1996) through which the focal person compares himself/herself to the rival in terms of attributes and characteristics. The authors posit that jealousy is evoked when an individual compares himself/herself on relevant attributes and characteristics (i.e., the characteristics and attributes that individuals hold central to their self-definition) to a rival and, as a result, experiences a threat to his/her self-evaluation. Put simply, the authors propose that jealousy will be elicited when an individual compares himself/herself to a rival, for example, on organizational influence, and comes to understand that the outcome of comparison is not in his/her favor. I argue, however, that the part of the framework specifying that jealousy is elicited when an individual compares his/her attributes and characteristics to those of a rival is imprecise because, rather than eliciting jealousy, this comparison would elicit a related emotion – envy. As discussed earlier, envy involves the comparison of one's own attributes and possessions with those of another person (e.g., Parrott, 1991). Jealousy, by contrast, involves the fear that a rival might now appropriate the benefits one previously received from one's partner (Buunk, 1991). As such, a more accurate depiction of the comparison process elicited by the fear of losing the benefits provided by the partner should encompass the evaluation of the extent to which the partner is likely to be enticed by the rival away from the focal person such that it would cause the partner to stop allocating the benefits to the focal person and to start providing them to the rival. As I will argue below, the most direct way of enticing or attracting another individual is to provide him or her with benefits. As such, the comparison process should involve the comparison of the benefits with which both focal person and rival provide the partner.

According to the exchange perspective on relationships, the reception of benefits in relationships is crucial for sustaining of organizational relationships (e.g., Allen & Eby, 2012; Baumeister & Vohs, 2004; Blau, 1964; Burgess & Huston, 1979; Buunk, 1991; Cropanzano & Mitchell, 2005; La Gaipa, 1977; Mendelson & Kay, 2003; Rousseau & Ling, 2007; Van Yperen & Buunk, 1990). In other words, individuals are likely to stay in organizational relationships to the extent that they receive desirable benefits from their partners. It should be noted, however, that although communal relationships (i.e., relationships in which benefits are provided without expectations of return in response to the partner's needs; Clark & Mills, 1979) and exploitive relationships (i.e., relationships in which one partner is motivated solely on the basis of gaining benefits for the self, without regard for the other partner's interests; Mills, Clark, Ford, & Johnson, 2004) also can occur within organizations (Allen & Eby, 2013), the exchange view of relationships has been the dominant paradigm within the literature on workplace relationships (e.g., Ferris, Liden, Munyon, Summers, Basik, & Buckley, 2009; for exception see Lujansky & Mikula, 2011). Given the importance individuals place on benefits they receive within their organizational relationships[2], they – consciously or unconsciously – might recognize that to prevent their partner from terminating the relationship, they need to provide sufficient and adequate benefits to him or her. As such, supporting the argument made above, individuals will compare themselves to their rivals in terms of the benefits each of them provides to the partner.

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[2] Whereas receiving benefits is also important in nonorganizational relationships (e.g., between adult family members, friends and romance partners), the greater emphasis in these other relationships is placed on providing the benefits in response to needs without the expectation of reciprocity (Clark & Mills, 1993; Mills & Clark, 1982). As such, the discussion that follows will not generalize beyond the workplace relationships.

Before discussing how the focal person will compare himself/herself to the rival on benefits both of them provide to the partner, it is important to first review the kinds of benefits with which individuals provide each other in the workplace and in general. Network theory suggests that relationships provide two types of resources or benefits (e.g., Fombrun, 1982; Kram, 1988). The first type, instrumental benefits, involves job-related resources, such as information, expertise, professional advice, political access, and material resources (e.g., Fombrun, 1982; Ibarra, 1993; Kanter, 1983), as well as development resources, such as career direction and guidance, exposure to upper management, and help in getting challenging and visible assignments (e.g., Kram, 1988; Higgins & Kram, 2001; Thomas, 1990). It should be noted that although instrumental network contacts may overlap with formally prescribed relationships in the workplace, they are not limited to them. The second type benefits are referred to as social/emotional or expressive benefits. They involve exchange of friendship and social support and are recognized by higher levels of closeness and trust than those that are exclusively instrumental (Krackhardt, 1993). A third type of benefits, not discussed within network theory but nevertheless prevalent within organizations, is sex-based, which involves flirtation (Rubin, 1985), excitement (Cockburn, 1991), and other feelings associated with potential romance (Rawlins, 1992) that are highly sought after in the workplace (Cockburn, 1991). Network theorists classify relationships that provide only one type of benefits as simple ties and relationships that provide multiple benefits – as multiplex ties (e.g., Brass, 1985; Ibarra, 1992; Miller, 1986).

Having discussed the different benefits received within organizational relationships, I next outline three processes through which a focal person could compare

himself or herself to the rival and thus evaluate the threat. To be clear, I theorize how in all three of these processes, the focal person will be comparing the *types* of benefits with which he/she and the rival provide the partner, rather than the magnitude of these benefits[3]. First, I propose and define the "substitutability effect," which posits that to the extent that the focal person believes the rival provides *qualitatively the same* (vs. *different*) types of benefits to the partner as the focal person provides to the partner (e.g., both provide instrumental benefits to the partner, both provide expressive and sex-based benefits), jealousy will be more intense. This effect will likely operate within the context of simple or multiplex ties existing between the focal person and the partner as well as between the partner and the rival. To expand on the substitutability effect, I then discuss how this effect plays out in triads of various sex compositions.

Second, I argue that if the benefits provided by the focal person and the rival to the partner are completely *qualitatively different* (e.g., focal person provides expressive benefits while the rival provides instrumental benefits, focal person provides expressive and sex-based benefits while the rival provides expressive and instrumental benefits) as perceived by the focal person, the focal person will feel threatened and, by extension, jealous to the extent that he or she believes that the kinds of benefits provided by the rival are more desirable than those provided by the focal person – referred to here as the "benefit-desirability" effect and argue that it could also play out within the context of simple or multiplex ties existing between the focal person and the partner as well as between the partner and the rival. I then discuss how this effect plays out in triads of

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[3] I do not contest the possibility that in addition to comparing the types of benefits, the focal person may also be comparing the magnitude of benefits with which he/she and the rival provide the partner. How this comparison will play out, however, is outside the scope of this dissertation.

different sex compositions.

Third, within the context of exclusively multiplex ties existing either between the focal person and the partner, or the partner and the rival, or both, it is possible that the benefits with which the focal person and the rival provide the partner are partially different (e.g., focal person provides expressive and instrumental benefits while rival provides expressive and sex-based benefits). In this case, when both the benefit-desirability and the substitutability effects are at play, jealousy will be more intense than in situations when only one of these effects is at play, regardless of whether effects make opposite predictions or predictions in the same direction.

Substitutability Effect

Given the immense focus on the exchange of benefits in work relationships, it is then likely that one of the factors that will influence the intensity of jealousy is whether the benefits provided by the focal person and the rival to the partner are qualitatively the same as or qualitatively different from each other. In other words, provided that there are several kinds of benefits which individuals can receive from their work relationships (i.e., instrumental, expressive, and sex-based), the rival could either replace the contribution of the focal person to the partner by providing the partner with the same kind of benefits (e.g., expressive) as the focal person or provide different benefits. Given that individuals strategically rather than spontaneously choose their work relationships (Gersick, Bartunek, & Dutton, 2000; Ibarra, 1997), believing that the rival offers the same benefits – whether one or multiple – to the partner as does the focal person will likely make the focal person feel worried that he/she somehow does not measure up to the partner's expectation, causing the partner to seek those benefits elsewhere (and by extension to cut

off the benefits from the focal person and transfer them to the rival; Cole, Schaninger, & Harris, 2002). The fear of being replaced (and, consequently, jealousy) in this situation will thus be more intense than in the situation when the focal person believes that the rival would provide the partner with different benefits than he/she would. In this latter case, the focal person would likely feel less jealous because he/she would likely feel at ease that the partner is not replacing him/her – rendering the contributions of the focal person still valued – but simply gaining access to other desired benefits[4]. I refer to this phenomenon as the "substitutability effect." As such, I propose:

> *Hypothesis 1a*: In the workplace, within the context of simple or multiplex ties, a focal person will experience more intense jealousy if he or she believes that a rival provides the partner with qualitatively the same kinds of benefits as he or she does than if he or she believes that the rival provides the partner with qualitatively different kinds of benefits.

The previous section focused on the *types* of benefits provided within organizational relationships and how the focal person likely compares the benefits he or she provides to those provided by the rival. As I will show below, however, previous research suggests that people believe that the resources provided within organizational relationships vary by gender. To explore how the substitutability effect plays out in triads of different sex compositions, it is necessary to review the literature on how benefits provided within organizational relationships came to be associated with different genders. First, I will review the literature on masculine structure of organizations (e.g., Acker,

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[4] Later in Chapter 1, I explain and hypothesize how feelings of jealousy may still be present in situations when the benefits provided by the focal person and the rival are qualitatively different in kind.

1992) and then discuss how such organizational structure influences the way people associate certain types of benefits with males and other types of benefits with females.

Previous work on organizational social-structure suggests that organizations are inherently masculine. For example, building on the work of Kanter (1977), who observed that some organizations appear to be masculine, Acker (1992) identified four different types of gendered processes that became embedded within organizational activities. First, there is the production of clear gender divisions. This includes divisions in the type of work completed by men and women, as well as salary differences between men and women for equal work. Next, there is the creation of symbols, images, and forms of consciousness that justify (or sometimes oppose) gender divisions. The third set of processes that reproduce gendered organizations are interactions between individuals (women and men, women and women, men and men) within the organization. During these interactions, images of gender are created and reaffirmed. Sexuality is often involved in these interactions, and the relations between dominance and sexuality shape interactions in ways that favor hierarchies of men. Finally, the fourth dimension of gendering processes is the internal mental processes, or cognitions, of an organization's employees. These are processes though which individuals construct their mental representations of the gendered structure of labor within their organization and develop their understanding of the opportunities available to each gender. Additionally, according to Acker (1992), it is through these processes that employees also determine the behaviors that are gender appropriate. Similarly, in her summary of trends in sex segregation in the United States and cross-nationally, Reskin (1993) concluded that although occupational segregation has declined since the Civil Rights Act it has

nevertheless plateaued causing most workers to remain in sex-segregated jobs. She noted employers' preferences, the demand for workers, economic pressures, discrimination and personnel practices as the potential demand-side explanations, and size of the labor supply, gender-role socialization, workers' values, among others, as the supply-side explanations for the continuing sex-segregation. More recent research has recognized that, in addition to an organization's size and demographics, organizational norms and work arrangements (e.g., policy, structure and workflow) are also indicators of organizational gender (e.g., Alvesson, 1998; Britton & Logan, 2008; Ely & Meyerson, 2010).

Provided that organizations have masculine cultures, working in one would lead people – consciously or unconsciously – to adopt and identify with the belief that men are more dominant, important and valued in organizations than women. Further, the expectation states theory argues that people use cultural beliefs about the status implications of distinguishing characteristics to organize their expectations and interactions in goal-oriented settings (Berger, Fisek, Norman, & Zelditch, 1977). Gender is a status characteristic that is associated with higher status in men than in women (Broverman et al., 1972; Wagner & Berger, 1997; Williams & Best, 1990; Wood & Karten, 1986). For example, a performance of the same quality has been shown to be seen as less indicative of ability in a woman than in a man (Biernat & Kobrynowicz, 1997; Castilla & Benard, 2010; Foschi, 1996), such that, for example, the noun "judge" (i.e., someone who presides over court proceedings) carries the connotation of power, the addition of a modifier "female" will make the same word seem less powerful (Averett & Heise, 1988). Furthermore, since men and woman interact frequently at work under

conditions where men have more resources (e.g., pay, formal position, contracts, information) advantaging them in the influence hierarchies that develop, mixed sex interaction continually reinforces gender status beliefs (Ridgeway, 1991). For example, given that relying on men at work leads women to have better career outcomes (Watkins, Kaplan, Brief, Shull, Dietz, Mansfield, & Cohen, 2006) might lead people to believe that men are more influential than women when it comes to job outcomes. As such, coupled with perceptions of men as more agentic, masterful, competitive, and dominant (Newport, 2001; Heilman, 2012; Spence & Buckner, 2000; Wood & Eagly, 2010), people are likely to come to expect men more than women to be able to provide instrumental resources.

Women, on the other hand, are stereotyped differently than men. Descriptively, women (more than men) are perceived as having communion, or connection with others, that includes being unselfish, concerned with others, and emotionally expressive (Heilman, 2012; Newport, 2001; Spence & Buckner, 2000; Wood & Eagly, 2010). Similarly, prescriptively women are expected to display communality, demonstrating socially sensitive and nurturing attributes reflecting their concern for others (Heilman, 2012). Prescriptive stereotypes establish normative expectations for women's behavior in the organizational context and result in the devaluation and derogation of women who directly or indirectly violate gender norms (Heilman, 2001, Heilman & Parks-Stamm, 2007), the phenomenon known as the backlash effect (Rudman, 1998; Rudman & Glick, 2001). Being able to anticipate the backlash (Lopez-Zafra, Retamero, & Eagly, 2009), women are likely to act within the prescribed norms, thereby reinforcing communal

expectations of them. For these reasons, the provision of expressive benefits is more likely to be associated with women than with men.

In addition to being associated with expressive benefits, research shows that women might also be associated with providing benefits of a sexual nature. For example, in their theory of sexual economics, Baumeister and Vohs (2004) speculate that the occupation of economic and political sphere and ownership of wealth and power primarily by males left women at a disadvantage. As such, they were left with and learned to use sex as a resource which they could exchange for material and social resources from men. The authors argue that such cultural marketplace and its norms influence the expectations and the behaviors of individuals, which in turn reinforces the norms. Thus, perpetuated by the norms, people developed expectations of women regarding provision of sexual and sex-associated benefits. These expectations also carried over to the workplace. For example, a survey administered to professionals suggest that men more than women seek out relationships with potential or actual sexual component (Sapadin, 1988). Similarly, men, more than women, report that their cross-sex relationships add a certain zest, a special excitement that cannot be had in a same-sex friendship (Cockburn, 1991). Some men speak of a flirtatious quality in the relationship, saying that this type of relationship imparts a quality of vitality to the time they spend together (Rubin, 1985). Previous research further also suggests that men are more likely to perceive cross-sex friendships as a precursor to romance or a relationship (Rawlins, 1992) because they may be more likely than females to interpret behaviors as sexual (Abbey, 1982).

The discussion above suggests that benefits with which individuals provide each other at work are gendered. Due to sociostructural reasons and stereotypes, men are expected to provide instrumental benefits, while the descriptive and prescriptive stereotypes as well as the cultural norms of women lead to expectations of women as providers of expressive and sex-associated benefits. That work-benefits are inherently gendered suggests that the benefits provided to the partner by same-sex individuals (i.e., the focal person and the rival) are more similar in nature to each other than those provided by cross-sex individuals. Tying this idea with the substitution effect (i.e., jealousy is higher to the extent that the rival is able to replace the benefits provided by the focal person to the partner) thus suggests that jealousy feelings will be more intense to the extent that a focal person is competing with the same-sex rival than opposite-sex rival. More formally stated, I propose:

> *Hypothesis 1b*: In organizations, jealousy will be more intense in triads with same-sex rivalry than triads with cross-sex rivalry.

Benefit-Desirability Effect

Previous discussion focused on situations when the rival and the focal person provide completely *qualitatively the same* types of benefits to the partner (e.g., both provide expressive benefits, or both provide expressive and sex-based benefits). In some triads, however, the benefits provided to the partner by the two individuals may be completely *qualitatively different* (e.g., the focal person provides expressive benefits, while the rival provides instrumental benefits; the focal person provides instrumental and sex-based benefits, while the rival provides expressive benefits). In these cases – whether in the context of simple or multiplex ties – jealousy might still be experienced if the focal

person realizes that the benefits provided by the rival are more desirable or valuable in the workplace than those provided by the focal person.

Previous research suggests that instrumental resources are linked to greater career outcomes (e.g., Flap & Volker, 2001; Hezlett & Gibson, 2007; Ridgeway, 1991; Ridgeway & Smith-Lovin, 1991). For example, Flap and Volker (2001) showed that networks of strategic, work-related ties promote employee's satisfaction with income, security and promotion opportunities. Advancing one's career is a goal shared by men and women alike, as evidenced by a lack of significant differences in networking behavior aimed at maintaining contacts, engaging in professional activities, and increasing internal visibility between male and female professionals (Forrett & Dougherty, 2001). Similarly, Stackman and Pinder (1999) found that men and women's instrumental relationships were similar in terms of size and similarly composed of people in terms of location, functions and hierarchical levels. Furthermore, although traditionally it has been believed that men are more interested in career advancement than women (Lacy, Bokemeier, & Shepard, 1980), the analysis by Konrad, Ritchie, Lieb, and Corrigall (2000) of the General Social Survey which included 15 nationally representative samples suggests that overtime women became slightly though significantly more interested in being promoted and promotion-related opportunities than men.

The importance of career for both men and women at work is also underscored by the value of instrumental benefits relative to other benefits in the workplace. For instance, Lin (2002) argued that people are motivated to either gain or maintain resources in social actions; an action to maintain existing resources can be classified as an expressive action

while an action to gain new resources can be classified as an instrumental action. Lin further argues that maintaining and protecting existing resources (i.e., expressive action) is the primary motive for action, suggesting then that an instrumental action is higher in the hierarchy and thus is more coveted. Supporting this conceptualization empirically, for example, Clark (2001) showed that men's and women's top reasons for quitting their jobs involve dissatisfaction with the terms of employment (e.g., pay, initiative, job security) and not their relations with others at work, suggesting that both men and women can tolerate unpleasant relations if they are satisfied with their job-related perks. Similarly, Chan-Serafin and colleagues (2013) have shown that some women are willing to give away sex – something that is very valuable and sacred to them (Baumeister & Vohs, 2004) in return for instrumental benefits typically provided by men.

It is then logical that in triads where the focal person and the rival provide the partner with completely qualitatively different benefits, the rival who is believed by the focal person to provide instrumental benefits (vs. expressive and/or sex-based) will elicit greater feelings of jealousy. As such:

> *Hypothesis 2a*: In the workplace, within the context of simple or multiplex ties in triads where the focal person and the rival provide the partner with qualitatively different benefits, a focal person will experience more intense jealousy if he or she perceives that the rival provides the partner with instrumental benefits (vs. expressive and/or sex-based).

Furthermore, given the gendered nature of the benefits (with instrumental benefits being more associated with men and expressive and potential-sexual benefits being more associated with women) as I argued earlier, I propose that:

Hypothesis 2b: In organizations, within the context of cross-sex rivalry, feelings of jealousy will be higher to the extent that the rival is a male (vs. a female).

Substitutability and Benefit-Desirability Effects Combined

In the context of exclusively multiplex ties existing either between the focal person and the partner, or the partner and the rival, or both, it is possible that rather than being completely the same or completely different, the benefits with which a focal person perceives a rival provides the partner may be *partially* qualitatively different from those provided by the focal person to the partner (e.g., rival provides sex-based and expressive while focal person provides instrumental and expressive benefits). Under these conditions, it is likely that the substitutability and the benefit-desirability effects will both exert influence on the level of jealousy.

When the substitutability effect makes a different prediction than the benefit-desirability effect, as for example, when a focal person provides expressive and instrumental benefits while a rival provides only expressive benefits, the individual will likely feel uncertain as to how he or she should feel. The feeling of uncertainty, in turn, was shown to intensify affective reactions (Bar-Anan, Wilson, & Gilbert, 2009), the effect attributed to uncertainty heightening people's attention to the ongoing event thus making it more accessible (Wilson et al., 2005). As such, when the two effects (i.e., substitutability and benefit-desirability) make opposing predictions, jealousy – counter-intuitively – will likely be very intense.

By contrast, it is possible that the two effects – substitutability and benefits-desirability – would make predictions in the same direction when, for example, the focal person provides expressive benefits while the rival provides instrumental and expressive

benefits. In this case, a focal individual is likely to also experience high intensity of jealousy given that 1) the rival is able to replace the expressive benefits provided by the focal person, and that 2) the rival provides more desirable benefits in the workplace – the instrumental benefits. In other words, the focal person will feel threatened by the rival, as the latter will not just be able to replace the focal person but also to surpass the focal person in terms of benefits provided to the partner. In sum, I propose:

> *Hypothesis 3:* In organizational settings, in situations when the focal person and the rival provide *partially* different benefits to the partner, the focal person will feel more jealous than in situations when the focal person and the rival provide the partner with qualitatively the same kinds of benefits or qualitatively different kinds of benefits.

Manifestations of Jealousy

The emotion of jealousy often manifests in a behavioral response, such as seeking social support and retribution (Bryson, 1991; Guerrero et al., 1995). I focus specifically on jealous person's aggressive responses – both toward a rival and a partner – as well as responses aimed at improving the relationship with the partner (e.g., helping the partner with heavy workload). Examining aggressive responses is appropriate given the wide prevalence of aggressive behaviors in organizations and the ongoing effort to understand the causes and thus to reduce these occurrences (e.g., Baron & Neuman, 1998; Neuman & Baron, 2005). For example, aggression toward either a rival or a relationship partner might materialize in workplace sabotage (Neuman & Baron, 1998), including behaviors such as the creation of unfavorable publicity, embarrassment, delays in production, damage to property, or even harming employees (Crino, 1994). In addition to workplace

sabotage, aggression can also be expressed as interpersonal workplace deviance and include sexual harassment, verbal abuse, and stealing from and endangering co-workers (Hershcovis et al., 2007; Robinson & Bennett, 1995, 1997).

Helping or interpersonal organizational citizenship behaviors are also quite frequent in organizations (e.g., Bolino, 1999; Dirks, Lewicki, & Zaheer, 2009; Ren & Gray, 2009). Previous research found that such behaviors are often motivated by the desire to maintain favorable impressions (and good relationships) with target individuals (e.g., Bolino, 1999; Bolino, Turnley, & Bloodgood, 2002; Podsakoff, McKenzie, & Organ, 2005; Rioux & Penner, 2001), especially in situations when the behavior targets individuals who influence desired outcomes (Bolino, 1999). For example, an attempt to improve a relationship might involve doing favors for the partner (Guerrero et al., 1995), such as assisting him/her with heavy workloads (Settoon & Mossholder, 2002). Given the desirability of such behaviors in organizations (e.g., Bolino, 1999), investigating the conditions under which jealousy leads to these behaviors is thus important.

I propose that the type and extent of the behavioral manifestations of jealousy will vary depending on the gender of the jealous person and whether jealousy is evoked within same-sex or cross-sex relationships. With respect to the gender of the jealous person, research shows that – directly or indirectly – males deal with jealousy in a more aggressive manner than females (Aylor & Dainton, 2001; Bryson, 1991; DeSteno et al., 2006; Nadler & Dotan, 1992). (Although I am not hypothesizing it and only focusing on overt aggression, it should be noted that prior literature suggests that indirect forms of aggression are more common among females than males; Bjorkqvist, Osterman, & Lagerspetz, 1994.) For example, DeSteno and colleagues asked their participants to work

with a partner (who in actuality was a confederate) on a problem-solving task. The confederate was instructed to ensure that the participant enjoyed working with him/her by repeatedly smiling and using a set of positive, encouraging verbal responses. A critical jealousy manipulation took place when another "participant" (again, a confederate asked to play the role of a rival) entered the lab, apologized for being late, grabbed a chair and joined the other two individuals. After several minutes, the partner-confederate expressed concern that the task was to be performed in pairs (not in a group of three) and offered the rival to become his or her partner. The latter readily agreed and the two moved to another room, leaving the actual participant to be by himself/herself. Upon completion of the problem-solving task, the actual participant was asked to participate in an ostensibly unrelated taste preferences task, wherein he/she was asked to measure out the amount of hot sauce that would be delivered to the partner and the rival (who were, ostensibly, randomly chosen) to eat in one mouthful. DeSteno and colleagues found that male participants poured a significantly greater amount of hot sauce than female participants, suggesting that men react more aggressively after experiencing jealousy than women. Compared to males, females tend to be more relationship-oriented (Cross & Madson, 1997) and to focus more on relationship repair following feelings of jealousy (Aylor & Dainton, 2001; Bryson et al., 1984; Nadler & Dotan, 1992). This suggests that females focus more on bettering the relationship between themselves and their partner in a jealousy-evoking situation than males, for example, by engaging in citizenship behaviors targeted to their partner. In short, gender differences exist in reactions to jealousy: whereas women, in general, tend to respond by focusing on the relationship with their partners, men tend to respond aggressively to both the rival and the partner.

Behavioral manifestations of jealousy are also likely influenced by whether jealousy originates in same-sex or cross-sex relationships. Because individuals tend to stay in relationships in which they receive desirable benefits from their relationship partners (Buunk, 1991), naturally, over time, they come to develop expectations regarding their procurement of these benefits. In situations where the expectations are not met – such as when the changes the recipient of his/her benefits (from the jealous person to the rival) – jealous individuals respond differently depending on whether or not they are involved in cross-sex or same-sex relationship. For example, Fuhrman and colleagues (2009) found that when heterosexual participants were asked to evaluate the degree of behavioral expectations (i.e., expectations that define the behaviors that people do and do not prefer in relationship partners and function to help individuals clarify and obtain relationship goals, p.575) they had for their nonorganizational same-sex friends, cross-sex friends and their romantic partners, participants, regardless of their gender, always rated their expectations for their romantic partners higher than those for their same-sex or cross-sex friends. The degree of expectations for their cross-sex friends, however, depended on whether participants were involved in a committed relationship. If they were not committed to another person, the expectations for cross-sex friends were comparable to romantic partners. By contrast, if participants currently had a romantic partner, the expectations for cross-sex friends were similar to those for same-sex friends.

Extrapolation of these findings to workplace relationships suggests that individuals who are otherwise not involved in a committed relationship should have greater expectations of their cross-sex relationship partners than of their same-sex partners. With respect to individuals who *are* involved in committed romantic

relationships, however, previous research shows that in many instances their other cross-sex relationships have the potential to develop into a relationship with a sexual component (Afifi & Faulkner, 2000; Antilla, 2002; Bleske-Rechek & Buss, 2001; Cockburn, 1991; Guerrero & Chavez, 2005; Sapadin, 1988). Furthermore, in Sapadin's (1988) study 65% of men and 62% of women reported having sexual feelings and tensions in their cross-sex relationships. These individuals might then perceive that this sexual component might provide them with access to benefits (e.g., career advancement, social dominance, sex) above and beyond those provided by their same-sex partners (e.g., Henningsen, Braz, & Davies, 2008; Trapnell, Meston, Gorzalka, 1997; Yelvington, 1996). Potentially receiving more benefits from their cross-sex partners at work, in turn, likely contributes to the development of greater expectations for these partners. As such, it is possible that individuals involved in cross-sex relationships in the workplace have higher expectations of their cross-sex partners than of their same-sex partners, regardless of whether they are also involved in committed romantic relationships.

Having greater expectations of a cross-sex partner would naturally lead to emotional devastation, frustration, and distress when those expectations are no longer met (Mirowsky & Ross, 1986), when, for instance, the partner stops providing benefits to the focal person and starts providing those to the rival. Similarly, in their paper, Exline, Baumeister, Zell, Kraft, and Witvliet (2008) found that people were less forgiving of the cross-sex wrongdoer. Although the "wrongdoer" could refer to either the partner who transferred the attention to the rival or the rival who "stole" the partner from the focal person, Bringle's (1991) work showed that, specifically, the feelings of jealousy are elicited to the extent that partner's behaviors toward the rival are intentionally *directed*

toward him or her (e.g., flirting with the rival, as opposed to the rival flirting with the partner). As such, in the context of a jealous triad, Exline and colleagues' (2008) work would suggest that a focal person would be less forgiving of a cross-sex partner, than cross-sex rival. The research above thus suggests that, perhaps, the behavioral responses to these strong feelings of jealousy may be more substantial and intense in nature than the behavioral responses an individual might engage in situations when he or she had lower expectations that were not met.

In sum, provided the research on gender differences in reactions following jealousy (e.g., Aylor & Dainton, 2001; Nadler & Dotan, 1991) and research on expectations in cross-sex vs. same-sex relationships (Fuhrman et al., 2009), I predict that:

> *Hypothesis 4a*: Following jealousy-evoking situations in organizations, females will have a greater tendency to put their effort into bettering their relationship with their partner, the tendency especially pronounced if the individuals are involved in a cross-sex relationship rather than in a same-sex relationship.
>
> *Hypothesis 4b*: Following jealousy-evoking situations in organizations, males will have a greater tendency to engage in aggression compared to females, the tendency especially pronounced if the individuals are involved in a cross-sex relationship rather than in a same-sex relationship.

Figure 1 portrays the general model of jealousy as it unfolds in organizations.

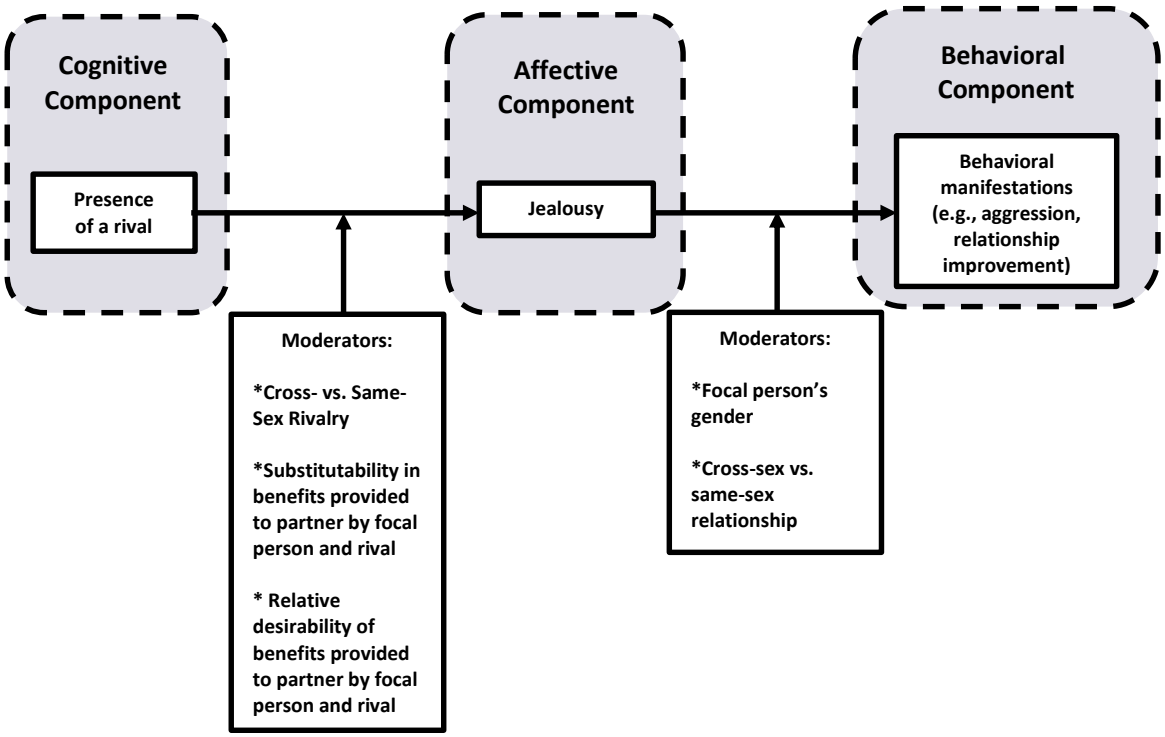

Figure 1. A Model of How Jealousy Unfolds in Organizations

CHAPTER 2

RESEARCH METHODOLOGY AND RESULTS

I conducted three studies in an effort to test my hypotheses. In Study 1, I used hypothetical scenario methodology to assess if in fact same-sex rivalry (i.e., rivalry, wherein the genders of the focal person and the rival are the same) leads to higher levels of jealousy than cross-sex rivalry (Hypothesis 1b) and if in triads with cross-sex rivalry, jealousy will be higher when the rival is a man (vs. a woman; Hypothesis 2b). Employing confederates, Study 2 examined the same phenomenon (Hypothesis 1b and 2b) and also tested the effect of triad composition on the intensity of aggressive and helpful behaviors (Hypotheses 4a and 4b). Finally, Study 3 tested all seven hypotheses: I thus examined the intensity of jealousy as a function of the type of triad (Hypotheses 1a - 3) and subsequently examined the outcomes of jealousy (Hypotheses 4a and 4b). Study 3 was conducted within organizational settings (vs. a laboratory), in order to examine whether the results obtained in the first two studies can be generalized to a real workplace sample as well as to test the remaining hypotheses.

Study 1

The purpose of this study was to provide an initial test for Hypotheses 1b and 2b. In a 2 (gender of participant) by 2 (gender of the rival) by 2 (gender of the partner) between-subjects factorial design, participants were asked to read a scenario and then

complete a follow-up questionnaire, which included a measure of jealousy (a dependent variable).

Being scenario-based rendered Study 1 subject to several biases, such as the "impact bias" and "focalism" causing people to overestimate the intensity of the emotional reactions to future events (Gilbert, Pinel, Wilson, Blumber, & Wheatley, 1998; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). Additionally, the scenario study was conducted only with those who likely could have had a first-hand experience with workplace jealousy by obtaining a sample of only employed individuals. To minimize the potential for these biases I followed Study 1 up with a second study where feelings of jealousy are induced through the actions of confederates (as opposed to imagined by participants themselves). Finally, I attempted to correct for these biases by asking participants to carefully think about other events that may occur on the same day as the hypothetical scenario (e.g., Wilson & Gilbert, 2005; Wilson et al., 2000).

Methods

Sample

According to *a priori* power analysis conducted using G*Power 3.1.2 (Buchner, Erdfelder, Faul, & Lang, 2009; ANOVA fixed effects, special, main effects and interactions, effect size f = .25 (medium), power = .80, numerator *df* = 1, number of groups = 8), I required about 128 participants for my study to form eight equal-sized cells corresponding to each of the eight types of triads. Anticipating that 10% of participants will fail to pass quality check questions, I recruited 141 participants (82 males and 59 females). Participants were employed American individuals from the Amazon Mechanical Turk pool, which previously has been argued to yield diverse sample and

high-quality data (Buhrmester, Kwang, & Gosling, 2011). Seventy two percent of participants were employed full-time at the time of the study, while 29% were employed part-time. On average, participants were 33 years of age, 73% were Caucasian, 29% were married and 92% were heterosexual. Participants were paid 30 cents for their 10-minute participation.

Procedures

After signing in to their Mechanical Turk account and giving consent to participate in the study, participants were first directed to screening questions pertaining to their employment status at the time of their participation. If a participant indicated that he or she was employed, he or she was then asked to provide information on how many hours/week the participant was working, field of employment, type of position, and whether participant worked from home or outside of home – information necessary to verify that participants have had a chance to form relationships with their co-workers and are able to identify with the focal person in the scenario. If participants indicated that they are unemployed, they were directed to the end of the study. These participants were not paid for their participation, as instructions for the study clearly stated that this research required participation of *employed individuals only.*

Participants who passed the screening questions were then directed to questions aimed at reducing the impact and the focalism biases. Borrowing from Wilson and colleagues (2000), participants were asked to think about a hypothetical day in the future and to estimate what they would be doing that day. They were asked to estimate the number of hours they would spend on 10 activities (e.g., socializing with friends, working, eating meals, sleeping, shopping, getting dressed, checking email, spending

time on social media websites, talking on the phone, and playing games) on a 7-point scale that ranges from "no time" to "four or more hours." They were then asked to fill in 24 blanks, one for each hour of the hypothetical day, with activities they think they would be doing at those times. After participants were done with this exercise they were asked to read the following scenario adapted from Buunk and colleagues (2010):

> Imagine that you have worked at a company for two years. You really enjoy the relationships you have developed with your colleagues. You especially enjoy a close bond you developed with David/Sarah, a co-worker who works in your team, with whom you often spend lunches together. One day you come to work and your manager introduces you to Linda/Bryan, a new employee hired into your team. Over the next few weeks, you notice that David/Sarah and Linda/Bryan connect quite well. They started spending increasingly more time together during work hours and exclude you from lunches that they spend together.

After participants read the scenario, they were asked to respond to questions comprising the dependent measure for this study, quality check items, and finally, the demographic questions.

Measures

Jealousy. To assess jealousy, I used the measure proposed by DeSteno and Salovey (1996). The measure asks participants to indicate the extent to which 11 adjectives describe their feeling state after reading the scenario on a 9-point scale (1 – not at all, 9 – very much so). The list of adjectives includes 11 words targeting specifically jealousy (i.e., suspicious, worried, distrustful, rejected, anxious, threatened, sad, jealous, angry, betrayed, and hurt). No filler items were included.

Quality check. As a quality check, I asked participants to select the gender of the person in the scenario who was described as their partner and the gender of the person who interfered with this close relationship.

Closeness. Participants were asked to respond to a 1-item measure assessing the extent to which they would have felt close to their partner at work before their relationship was usurped by another individual on a scale from 1 to 7 (1– not close at all; 7 – very close). This measure was intended to be used as part of my post-hoc analysis. If the scenario yields no significant differences between conditions, I will test my hypotheses with individuals who have indicated the above-mean level of closeness to ensure that the scenario manipulated jealous feelings and not feelings of ostracism (even though Buunk and colleagues have pretested this scenario to ensure that it manipulates jealousy).

Demographics/Control. Demographic information collected included participants' gender, as well as ethnicity, marital status, employment, sexual orientation, and age. Furthermore, because jealousy is also closely associated with feelings of ostracism, I administered the ostracism measure developed by Smith and Williams (2004), which consists of two items: "I felt excluded" and "I felt ignored" rated on a 7-point scale (1 – not at all 7 – very much) to be used as a control variable.

Results

First, 14 participants were removed from the analysis for failing to pass the quality check question, reducing the sample to 127 participants. Next, I created a composite measure of the feelings of jealousy and a separate measure of ostracism. Reliability analysis for the measures of jealousy and of ostracism revealed that the items comprising each scale were internally consistent, $\alpha = .95$ and $\alpha = .83$, respectively.

On average, males (coded as "1," $M = 4.37$, $SD = 1.8$) did not experience more jealousy than females (coded as "0," $M = 4.76$, $SD = 2.14$), $B = -.38$, $p = .280$.

Interestingly, the results of the linear regression revealed that participants (regardless of their gender) experienced more jealousy when they were asked to imagine that in the workplace they had a close relationship with a female (M = 5.11, SD = 1.77; vs. male, M = 3.95, SD = 2.05), B = - 1.16, p = .001, and when the rival was a female (M = 4.96, SD = 2.02; vs. male, M = 4.14, SD = 1.89), B = - .82, p = .021. Jealousy means for each of the eight types of triads are reported in Table 2. It appears that females who were asked to imagine having a female partner and a female rival experienced highest levels of jealousy (M = 5.50, SD = 2.21). The means, standard deviations and correlations for all variables included in the analysis in Study 1 are reported in Table 3.

Before testing Hypothesis 1b, I examined the degree to which participants imagined to have closeness with their partner, as the experience of closeness is an important precurser to feelings of jealousy. I found that the scenario indeed led participants, on average, to imagine an experience of closeness, M = 5.33, SD = 1.29.

Testing Hypothesis 1b

To test Hypothesis 1b, which states that individuals in triads with same-sex rivalry will experience greater jealousy than individuals in triads with cross-sex rivalry, I coded triads 1, 3, 6, and 8 (same-sex rivalry) as "1" and triads 2, 4, 5, and 7 (cross-sex rivalry) as "0." The results of the linear regression, where the type of rivalry was included as the independent variable and the jealousy scale was included as the dependent variable, did not reveal a significant effect, $F(1, 125) = .32$, B = -.20, p = .569. In other words, same-sex rivalry (M = 4.42, SD = 1.93) did not elicit greater jealousy than cross-sex rivalry (M = 4.63, SD = 2.04). Next, because feelings of jealousy are closely associated with feelings of ostracism, r = .58, I controlled for feelings of

Table 2. Mean Levels of Jealousy in Each Type of Triad (Study 1)

Triad Type (Focal Person–Partner–Rival)	*N*	$M_{jealousy}$	*SD*
Triad 1: Male–Male–Male	23	3.41	1.89
Triad 2: Male–Male–Female	16	4.32	2.02
Triad 3: Male–Female–Male	20	5.13	1.38
Triad 4: Male–Female–Female	14	4.92	1.74
Triad 5: Female–Male–Male	10	3.04	1.82
Triad 6: Female–Male–Female	14	5.07	2.05
Triad 7: Female–Female–Male	13	4.77	1.78
Triad 8: Female–Female–Female	17	5.50	2.21
Total	127	4.53	1.99

Table 3. Means, Standard Deviations, and Correlations (Study 1)

	M	SD	(1)	(2)	(3)	(4)	(5)
(1) Gender of focal person	.57	.50					
(2) Gender of partner	.50	.50	.09				
(3) Gender of rival	.52	.50	.16	.01			
(4) Jealousy	4.53	1.99	-.10	-.30**	-.21*		
(5) Ostracism	5.34	1.54	-.03	-.13	-.20*	.58**	

Note. N = 127. Gender is coded female = 0, male = 1. *$p < .05$, **$p < .01$.

ostracism in the same regression equation. The results revealed that after controlling for feelings of ostracism, the relationship between the type of rivalry and feelings of jealousy was still nonsignificant, B = -.012, p = .967. Finally, per my original intention to include only individuals above the median of closeness (Median = 6.00) in case the results of the linear regression are nonsignificant, I tested Hypothesis 1b with individuals who indicated a score of 6 or more on the question of how close they imagined to feel with the partner in the scenario. The results of the linear regression again revealed no significant effect of the rivalry type on feelings of jealousy, $F(1, 61) = .174$, B = -.22, p = .678. In sum, Hypothesis 1b was not supported.

Testing Hypothesis 2b

To test Hypothesis 2b, which states that in triads with cross-sex rivalry, a female focal person who has a male rival will experience greater feelings of jealousy than a male focal person who has a female rival, I coded Triads 2 and 4 as "0" and Triads 5 and 7 as "1." The results of the linear regression where the type of rivalry was included as the independent variable and feelings of jealousy were included as the dependent variable, revealed a nonsignificant effect, $F(1, 51) = 1.19$, B = -.58, p = .280. In other words, a female focal person with a male rival (M = 4.02, SD = 1.96) did not experience greater jealousy than a male focal person with a female rival (M = 4.60, SD = 1.89). Next, I controlled for feelings of ostracism in the same regression equation. The results revealed that after controlling for feelings of ostracism, the relationship between type of rivalry and feelings of jealousy was still nonsignificant, B = -.20, p = .675. Finally, per my original intention to include only individuals above the median (Median = 6.00) in case the results of the linear regression are nonsignificant, I tested Hypothesis 2b with

individuals who indicated a score of 6 or more on the question of how close they imagined to feel with the partner in the scenario. The results of the linear regression again revealed no significant effect of the rivalry type on the jealousy scale, $F(1, 26) = .34$, $B = -.45$, $p = .564$.

In sum, it appears that neither Hypothesis 1b nor Hypothesis 2b was supported, as the type of rivalry did not appear to affect the levels of jealousy. Despite taking the precautionary measures to avoid the impact bias and the focalism, it is plausible that individuals – though employed – might have had a hard time imagining feeling jealous at work. After all, only one-third of the employed individuals reported experiencing jealousy in the workplace (Miner, 1990). As such, it was important to test these and other hypotheses pertaining to workplace jealousy in a laboratory setting, where, through the actions of two confederates, a participant *actually* experienced jealousy.

Study 2

Study 2 is designed to more directly test the effect of gender composition of the jealousy triad on the intensity of jealousy (Hypothesis 1b and 2b) as well as to examine the outcomes of this emotion (Hypotheses 4a and 4b). In Study 2, rather than measuring participants' feelings of jealousy in response to hypothetical scenarios (as was done in Study 1), I induced these feelings through a confederate study design (manipulating the genders of the partner and the rival) and examined how these feelings affected the participants' behaviors (i.e., aggression and helpfulness). To that end, I adopted the method of jealousy induction originally proposed by DeSteno and colleagues (2006) and extended it by manipulating the genders of the focal person as well as the genders of the partner and the rival confederates. As such, I employed 2 (gender of participant) by 2

(gender of the partner) by 2 (gender of the rival) between-subjects factorial design.

Methods

Sample

According to *a priori* power analysis conducted using G*Power 3.1.2 (Buchner et al., 2009; ANOVA fixed effects, special, main effects and interactions, effect size f = .25 (medium), power = .80, numerator *df* = 1, number of groups = 8), I required about 128 participants for my study to form eight equal-sized cells corresponding to each of the eight types of triads. Recruited through the undergraduate student research pool at a major university located in the Western U.S., 125 undergraduate students (78 males, 47 females) participated in the study in exchange for partial course credit. On average, participants were 23.91 years of age, 27% of them were married; 21.6% worked full-time, 47.2% worked part-time, 31.2% were unemployed, 70.4% were Caucasian, and 95.2% were heterosexual.

Procedure

Participants participated in the study individually (i.e., participants were run one at a time). Upon arrival, participants were greeted by an experimenter and invited to sit at a table. After one minute, a confederate playing the role of the partner but acting as another participant walked in and was also asked to sit at the table. Under the pretense that they are waiting for another participant, the actual participant and the confederate spent five minutes getting to know each other, while the confederate was specifically instructed to establish a pleasant rapport with the participant. After five minutes the experimenter walked back in and explained that the participants (i.e., the actual

participant and the confederate) will be asked to complete a series of problem-solving tasks and then participate in an unrelated food-tasting marketing study. The first task involved completing an unscrambling task (see Appendix A), the goal of which was to re-arrange letters to form actual words. The experimenter then told them that since there were only two of them, they could choose to work together or alone. At this point, the partner-confederate turned toward the participant and suggested they work together. Similar to the DeSteno and colleagues' study employing the same design, none of the participants refused.

During this problem-solving task, the partner-confederate established a pleasant working relationship with the participant (a necessary condition for the evocation of jealousy vs. feelings of exclusion after the partner directs attention to the rival; DeSteno et al., 2006) through repeated smiling and using a set of encouraging word responses (i.e., "that's a good one, "I am glad we are doing this together"). At times when the participants took a long time to come up with the correct answer to a particular scrambled word, the partner-confederate, who memorized the solutions to the scrambled words, was instructed to "solve" this word. After five minutes, a knock on the door was heard and the experimenter came out from the side door to answer it. Another confederate, playing the role of the rival but acting as another participant, entered and apologized for being late. The experimenter invited him or her to sit at the table with the other two individuals (i.e., the partner-confederate and the actual participant) and completed the unscrambling task. For the next three minutes, three individuals worked together with rival-confederate devoting most of the attention to the partner-confederate through encouragement, validations, and provision of the solutions to the scrambled words, when the pause got

too long.

At this point, the partner-confederate expressed a concern that the task was meant to be completed alone or in pairs, not in a group of three. He or she then checked with the experimenter and, having received the affirmative response, offered to partner up with the rival-confederate[5]. After the latter readily agreed, the two confederates walked over to the other side of the room and continued to work on the problem solving task within the actual participant's ear shot for one minute.

The experimenter then walked into the room and explained that the time was up and distributed a set of demographic questionnaires to complete. Mixed among those was a measure of jealousy and a food-preferences measure, which asked the participants to evaluate the extent to which they like sweet, sour, creamy, salty, spicy, and fruity tastes on a 21-point scale (1 – don't like at all, 21 – extremely like). The food preferences measure completed by the participant was not be used in the analysis but served the purpose of letting the participant know that the "other participants" (in actuality – confederates) were also asked to complete such measure. At a later point in the study, the food-preferences measure ostensibly completed by the two confederates, was then to be given to the participant as part of the aggression measure; see "Measures and Inductions" section.

After participants completed the required questionnaires, the experimenter

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[5] It was important that specifically the partner (vs. the rival) was the impetus for separation. When the partner voluntary and willfully makes the decision to withdraw the benefits he or she provided to the focal person and instead start providing them to the rival, it suggests that the partner is not interested in the focal person; by contrast, if the rival initiates the separation, it might suggest to the focal person that the partner felt pressured to agree and eventually might return. Drawing upon this argument, DeSteno and colleagues (2006) have also instructed their partner-confederate (rather than their rival-confederate) to initiate the separation. Similarly, Bringle (1991) has found that jealousy is more likely to be evoked when the partner initiates interactions with the rival than vice versa.

explained that that the next portion of the study involved another problem-solving task, which, in actuality, served as a behavioral measure of helpfulness toward the partner (see "Measures and Induction" section). Participants were told that this part of the study required only two participants – one would be playing the role of the contestant, while the other would be helping the experimenter set up the task. Ostensibly through a random draw, the actual participant ended up assisting the experimenter by selecting the hints to be presented to another participant (i.e., the partner-confederate), while he or she completed this problem-solving task.

After the actual participant finished selecting the hints, the experimenter said that all participants would be participating in a food-tasting marketing study which, in actuality, served as a behavioral measure of aggression (i.e., "Measures and Induction" section). Participants were told that that in order for the experimenter to be blind to certain aspects of the experiment, participants themselves would be preparing the food item for other participants in separate rooms. Before retiring to separate rooms, each participant was given a box, which, as they were told, contained: 1) three food items, 2) the food category to which they were assigned and information regarding the food item they will be preparing for each of the other participants, 3) two empty sample containers labeled with the confederates' first names, and 4) the taste preferences questionnaires of the "two other participants" (in actuality – confederates) included because "it might be fun to read those." The experimenter also told participants that that the entire contents of the cup in which they would measure out the food item would be placed directly into the mouths of the other two participants. When the actual participant went into a separate room and opened the box, he/she saw: 1) three food items that are objectively sweet

(chocolate syrup), fruity (fruit punch), and spicy (hot sauce with a fiery label and "hotness" warnings), 2) a note saying that they had been randomly assigned to prepare two spicy samples, 3) food tasting questionnaires from the "two other participants" saying that they had rated their liking for spicy foods as 3 on a 21 point scale (placed to top of the box to ensure that the participants read them), and 4) two empty cups labeled with confederates' first names. After participants were finished with preparing the samples, they placed a cover on the sample containers, placed the containers in the box, and returned the box to the experimenter. After returning the box to the experimenter, the actual participant was thanked and dismissed.

Because the methodology presented in this dissertation required deception, it is important to acknowledge its potential harm to the participants and research and provide the rationale for using it. With respect to potential harm to research, Wendler and Miller (2004) noted that given the widespread prevalence of deception in psychology experiments, college students may expect psychology experiments to be deceptive. As such, the resulting data may reflect the attitudes of participants who expect to be deceived, rather than those who assume that the experiment involved no deception. In this study, however, between choosing to be honest with participants by telling them about the confederates, thereby likely not eliciting any jealousy in any of the participants, and choosing to deceive them temporarily by introducing the confederates as the other participants, thereby potentially eliciting some jealousy, I made the choice in favor of the second option. Moreover, the two studies conducted to test the conjecture that deception may affect the validity of the findings, however, found that the effects of suspicion were negligible (Barrerra & Simpson, 2012; Hertwig & Ortmann, 2008).

Additionally, the critics of deception argue that this research methodology breeds resentment among participants. However, in his 1998 review, Kimmel concluded that "the preponderance of evidence suggests that deceived participants do not become resentful about having been fooled by researchers" (p. 804). It should be noted that although deception does not upset most participants, it is very likely that one or two participants in my sample were upset. To partially mitigate the negative feelings, the debriefing form provided them with contact information of the Institutional Review Board as well as the University Student Health Clinic. It should also be noted that the conclusion that deception poses no risk to participants was drawn based upon the results of healthy college students. Because my sample contained a few middle-aged participants, I exercised extra care when I debriefed them.

In general, the Ethical Principles of Psychologists allow investigators to deceive participants when the following four criteria are met. The first criterion is that deception must be justified by the study's value. The current study was approved by the Institutional Review Board as well as by five dissertation committee members, lending credence to the scientific merit of this study. Second, deception is warranted when nondeceptive approaches are not feasible. Using deception to study jealousy does not meet this criterion, since, as noted earlier, jealous episodes occur rather frequently in organizations. However, although an organizational field study was conducted as part of this dissertation, the laboratory study employing deception to elicit jealousy was also warranted since the data from the field study will be correlational (and not causational). Furthermore, to study jealousy in the laboratory, participants must be caught off guard, which can only be accomplished if participants legitimately believe that the two

confederates are simply two other participants. In other words, participants' reactions to situations when their partner switches focus to the rival will be authentic only if the participant believes that the partner is doing so volitionally (Bringle, 1991). The third criterion that must be met is that participants are not deceived about any aspects of the study that would affect their willingness to participate, such as physical risks. Because the physical risks associated with this study were not greater than those associated with everyday life, this criterion was met. Finally, deception can only be used if it is explained to participants at the conclusion of research. This criterion was also met after I debriefed my participants. Taken together, because the merit of deception in this study outweighs the harm, I argue that the use of it is allowable.

Measures and Inductions

Jealousy induction. Jealousy was induced through a series of staged interactions involving two confederates (i.e., a rival and a partner) and an actual participant. More detail on these interactions is provided in the next section (see Appendix B for the experimenter's and confederates' scripts). In brief, jealousy was induced when the pleasant bond established between the partner-confederate and the participant was threatened due to the encroachment of the rival.

Jealousy. Similar to Study 1, I used the measure proposed by DeSteno and Salovey (1996) to assess the intensity of jealousy. The measure asks the participants to indicate the extent to which 11 adjectives describe their current state in response to the interactions with the confederates on a 9-point scale (1 – not at all, 9 – very much so). Mixed among those items were also filler items, including happy, relaxed, excited, tired, and energetic.

Helpfulness toward the partner. To assess the extent of helpful behaviors participants displayed toward the partner, I used Rudman's and Fairchild's (2004) measure of sabotage, the scores in which are positioned on a "sabotage – helpfulness" continuum. In the current study, however, I used this measure as the measure of helpfulness, rather than sabotage. In this measure, participants were asked to "help the experimenter" to program the next activity, in which the partner was (ostensibly) randomly selected to participate. The participants were told that the task will be modeled after the "Gibberish Question" portion of "You Don't Know Jack," a popular computer game. The game included identifying the correct sayings that rhyme with the nonsensical sayings presented on the screen. The actual participant was instructed to pick hints or clues (ranging from low helpfulness to high) to present to the partner-confederate for each of the 12 questions (see Appendix C). For example, for the question "poor sores canned heaven fears you go" (the answer is "four score and seven years ago"), the following clues were provided: "It's about the passage of time" (unhelpful), "It's a famous beginning" (medium), and "It's the start of a famous speech by Abraham Lincoln" (helpful). The clues (which will be unlabeled and presented in random order) were subsequently scored on a scale from 1 (*helpful*) to 3 (*unhelpful*) and summed to form the helpfulness index.

Aggressive behavior. To assess aggression, I used a paradigm developed by Lieberman, Solomon, Greenberg, and McGregor (1999), in which participants were given an opportunity to inflict pain on others by deciding on the amount of hot sauce to be eaten by the partner and the rival. After participants left, the experimenter weighed the mass of the two containers on scale and recorded the weight. The amount of hot sauce in

the container served as a proxy for aggression: greater amount of hot sauce in a container indicated greater aggression.

Demographics/Control. As part of the demographics questionnaire, I measured participants' gender (as one of the independent variables for the study) as well as age and ethnicity (information that will be required when I describe the sample in a research paper). Similar to Study 1, I planned to also control for ostracism which was measured using the same measure as in Study 1.

Results

First, similar to Study 1, I created a composite measure of jealousy items and of ostracism items. Reliability analysis for the measures of jealousy and of ostracism revealed that the items comprising each scale were internally consistent, $\alpha = .899$ and $\alpha = .855$, respectively. I also created a composite of the helpfulness measure. Reliability analysis revealed that the items comprising the scale were internally inconsistent ($\alpha = .559$), but by removing item #11, the coefficient alpha became acceptable ($\alpha = .691$).

On average, the results of the linear regression revealed that females (coded as "0", $M = 3.79$, $SD = 1.66$) were more jealous than males (coded as "1", $M = 3.14$, $SD = 1.56$), $B = -.65$, $p = .031$. Additionally, similar to Study 1, using linear regression I found that participants (regardless of the gender) also experienced more jealousy in the study when their partner was a female ($M = 3.74$, $SD = 1.65$; vs. male, $M = 3.03$, $SD = 1.53$), $B = -.712$, $p = .014$. The gender of the rival, however, did not affect the levels of jealousy, $B = .47$, $p = .105$, (males: $M = 3.62$, $SD = 1.68$; females: $M = 3.15$, $SD = 1.55$). In general, the levels of jealousy in each of the triad type, relative to the other triad types, were similar to those found in Study 1, with the exception of two triads: male focal

person–male partner–female rival and male focal person–female partner–female rival. The numbers in these two triads were smaller relative to the other triads than in Study 1. As in Study 1, however, it appears that females who had a female partner and a female rival experienced the highest levels of jealousy (M = 4.18, SD = 1.88).

With respect to helpfulness, it appears that individuals in the "male focal person-male partner-female rival" triad were the most helpful toward their partners (M = 2.54, SD = .28), while individuals in the "female focal person-female partner-female rival" triad were least helpful (M = 2.33, SD = .36). In general, the results of the linear regression suggest that greater levels of jealousy led to lower levels of helpfulness, B = -.05, p = .008. With respect to aggression toward the partner, it appears that individuals in the "female focal person-female partner-female rival" triad were most aggressive (M = 36.50, SD = 24.43), while individuals in the "male focal person-female partner-female rival" triad were least aggressive (M = 15.88, SD = 7.12). Using linear regression, I found that greater levels of jealousy led to greater levels of aggression toward the partner, B = 2.31, p = .045. Similarly, with respect to aggression toward the rival, individuals in the "female focal person-female partner-female rival" triad were most aggressive (M = 32.50, SD = 25.08), while individuals in the "male focal person-female partner-female rival" triad were least aggressive (M = 14.82, SD = 5.54). In general, the results of the linear regression suggest that greater levels of jealousy were only marginally predictive of aggression toward the rival, B = 1.89, p = .075. Jealousy, helpfulness, and aggressiveness (toward the partner and the rival) means for each of the eight types of triads are reported in Table 4. The correlations between the variables included in the analyses are reported in Table 5.

Table 4. Mean Levels of Jealousy, Helpfulness, and Aggression (Toward the Partner and the Rival) in Each Type of Triad (Study 2)

Triad Type (Focal Person–Partner–Rival)	*N*	$M_{jealousy}$ (SD)	$M_{helpfulness}$ (SD)	$M_{aggression\ toward\ partner}$ (in mLbs) (SD)	$M_{aggression\ toward\ rival}$ (in mLbs) (SD)
Triad 1: Male–Male–Male	19	2.89 (1.63)	2.35 (.36)	33.84 (30.14)	31.63 (29.38)
Triad 2: Male–Male–Female	21	2.71 (1.40)	2.54 (.28)	19.43 (7.78)	17.62 (6.62)
Triad 3: Male–Female–Male	20	4.10 (1.64)	2.48 (.33)	30.55 (23.47)	29.95 (20.55)
Triad 4: Male–Female–Female	18	2.86 (1.23)	2.42 (.31)	15.88 (7.12)	14.82 (5.54)
Triad 5: Female–Male–Male	12	3.55 (1.59)	2.39 (.48)	25.00 (14.72)	25.08 (14.82)
Triad 6: Female–Male–Female	11	3.34 (1.53)	2.41 (.23)	33.45 (27.34)	31.00 (20.79)
Triad 7: Female–Female–Male	12	4.05 (1.69)	2.37 (.46)	17.33 (9.69)	17.92 (9.26)
Triad 8: Female–Female–Female	12	4.18 (1.88)	2.33 (.36)	36.50 (24.43)	32.50 (25.08)
Total	125	3.39 (1.63)	2.42 (.35)	26.18 (20.83)	24.75 (19.21)

Table 5. Means, Standard Deviations, and Correlations (Study 2)

	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Gender of focal person	.62	.49								
(2) Gender of partner	.50	.50	.02							
(3) Gender of rival	.50	.50	-.01	-.02						
(4) Jealousy	3.39	1.63	-.19*	-.22*	.15					
(5) Helpfulness toward partner	2.42	.35	.11	.03	-.06	-.24**				
(6) Aggression toward partner	26.18	20.83	-.07	.05	.09	.18*	-.24**			
(7) Aggression toward rival	24.75	19.22	-.07	.05	.13	.16	-.23*	.93**		
(8) Ostracism of focal person	4.01	2.48	-.25**	-.23**	.19*	.81**	-.20**	.02	.01	
(9) Age	23.91	4.70	.25**	.09	.06	-.20*	.13	.04	.02	-.14

Note. N = 125. Gender is coded female = 0, male = 1. *$p < .05$, **$p < .01$.

Despite randomly assigning participants into conditions, I nevertheless ended up with cells with different mean ages of the participants, $F(1, 117) = 2.58$, $p = .017$. In speaking with the research assistants (i.e., confederates) after every laboratory session I realized that it was more difficult for them (varying in ages between 20 and 23) to establish a relationship with older students. Previous research suggests that in the absence of close relationship between the partner and the focal person, the latter would experience feelings of ostracism, rather than jealousy (e.g., Williams, 2007). Indeed, age was significantly negatively correlated with jealousy, $r = -.21$, $p = .026$, but not with ostracism, $r = -.14$, $p = .125$. As such, to ensure that the effects of age are accounted for, it was important to control for age.

Although I originally planned to control for ostracism, to ensure that the manipulations did not elicit feelings of ostracism instead of jealousy, upon careful consideration, I chose not to do so. The two measures were highly correlated (in both this study, $r = .81$, and in Study 1, $r = .58$) and the items from both measures revealed a high internal consistency (in both this study, $\alpha = .92$, and in Study 1, $\alpha = .95$). Additionally, the results of principal component analysis with direct oblimin rotation (i.e., rotation that allows factors to be correlated) for this study revealed both items from the ostracism measure – "I feel excluded," and "I feel ignored" – loaded highly at .90, and .79, respectively, on the first factor containing the majority of the items from the jealousy scale. The face validity of the ostracism items (i.e., "I feel ignored" and "I feel excluded") provides additional support for this idea, as participants were objectively ignored and excluded when two confederates parted off to another section of the room. Finally, because one of the bigger distinctions between jealousy and ostracism is that to

experience jealousy, a focal person must, *a priori*, have developed a close relationship with his or her partner, the experimental manipulation used may have evoked both feelings of ostracism and jealousy. Specifically, the 10 minutes participants had to develop a close relationship with the first confederate might not have been enough to do so, leading them to experience jealousy and ostracism simultaneously. Taken together, this suggests that feelings of ostracism may comprise a part of jealousy experience in this particular study design. More details about the similarity between the two constructs are provided in the Discussion Chapter.

The sections below proceed as follows. First, I test Hypothesis 1b, which states that same-sex rivalry will evoke greater jealousy than cross-sex rivalry. I then test Hypothesis 2b, which states that a female focal person with a male rival will experience greater jealousy than a male focal person with a female rival. Finally, I test hypotheses related to the behavioral outcomes of jealousy. I start by testing Hypothesis 4a, which states that females (more than males) will have a greater tendency to respond to jealousy with helpfulness toward their partner, the tendency especially pronounced in cross-sex (vs. same-sex) relationships. I then test Hypothesis 4b, which states that males (more than females) will have a greater tendency to respond to jealousy with aggression, the tendency especially pronounced in cross-sex (vs. same-sex) relationships. I first test this hypothesis with "aggression toward the partner" as the dependent variable and then – with "aggression toward the rival" as the dependent variable.

Strictly speaking, the *p* values reported in these sections (and hypotheses testing-sections in Study 3) are erroneous due to multiple statistical tests employing the same data (e.g., Abdi, 2007), as increasing the number of hypotheses increases the likelihood

of rejecting the null hypothesis when it is true. However, following convention, I will report *p* values without adjustment.

Testing Hypotheses 1b

To test Hypothesis 1b, which states that individuals in triads with same-sex rivalry will experience greater jealousy than individuals in triads with cross-sex rivalry, I coded triads 1, 3, 6, and 8 (same-sex rivalry) as "1" and triads 2, 4, 5, and 7 (cross-sex rivalry) as "0." Without including age as the control variable, the results of the linear regression, where the type of rivalry was included as an independent variable whereas the jealousy scale was included as a dependent variable, did not reveal a significant effect, $F(1, 123) = 2.36$, $B = .44$, $p = .127$. However, when controlling for age, $B = -.08$, $p = .012$, the linear regression revealed a marginally significant effect of the type of rivalry on feelings of jealousy, $B = .52$, $p = .056$. In other words, same-sex rivalry ($M = 3.61$, $SD = 1.72$) elicited greater jealousy than cross-sex rivalry ($M = 3.17$, $SD = 1.51$).

Testing Hypotheses 2b

To test Hypothesis 2b, which states that in triads with cross-sex rivalry, a female focal person who has a male rival will experience greater feelings of jealousy than a male focal person who has a female rival, I coded Triads 2 and 4 as "0" and Triads 5 and 7 as "1." The results of the linear regression where the type of rivalry was included as the independent variable and feelings of jealousy were included as dependent variable, revealed a significant effect, $F(1, 61) = 7.52$, $B = 1.02$, $p = .008$. Controlling for age, $B = .01$, $p = .765$, the relationship between the type of rivalry and levels of jealousy remained significant, $B = 1.04$, $p = .008$. In other words, a female focal person with a male rival ($M = 3.80$, $SD = 1.63$) experienced greater jealousy than a male focal person with a female

rival (M = 2.78, SD = 1.31).

Testing Hypothesis 4a

To test Hypothesis 4a, which states that females more than males will engage in helping behaviors toward their partners, the effect accentuated to the extent that females are in a cross-sex relationship, I followed the procedures recommended by Preacher and Hayes (2008) to test the proposed model. For the analysis, I used the Statistical Package for the Social Sciences (SPSS) macro designed by Preacher and Hayes (2009) for analyzing mediation: all bootstrap analyses are based on 5,000 bootstrap samples.

First, I tested the un-moderated (i.e., simple) mediation model, where the gender of the participant was included as the independent variable (males were coded as "1," females were coded as "0"), jealousy composite was included as the mediator, and a measure of helpfulness was included as the dependent variable. The relationship between the gender of the participant and jealousy was significant, B = -.65, SE = .30, p = .031, suggesting that females experienced greater jealousy than males. Next, I examined the second mediation path – the path between the levels of jealousy and the degree of helpfulness. The relationship between jealousy and helpfulness was significant, B = -.05, SE = .02, p = .014. In other words, controlling for the effects of gender, greater jealousy was associated with less helpfulness. Finally, although the direct effect between gender and the degree of helpfulness was nonsignificant, B = .05, SE = .06, p = .485, the indirect effect was significant, as the 95% confidence intervals for the total indirect effect for the model did not include zero, B = .03, SE = .02, [.001, .090]. This suggested that following experience of jealousy, males were more likely to help their partner than females (Figure 2). Controlling for the effects of age did not change the significance of the un-moderated

mediation: the direct effect between gender and helpfulness remained significant, B = .03, SE = .07, p = .621, while the indirect effect remained nonsignificant, B = .03, SE = .02, as 95% confidence intervals excluded zero, [.001, .090].

Next, I tested the moderated mediation model, where I have included the variable indicating whether the relationship was cross-sex (coded as "1") or same-sex (coded as "0") as the moderator of the simple mediation described above. First, I examined the path between gender and jealousy, finding it to be significant, B = -1.32, SE = .41, p = .002. Included in the same equation, the variable indicating whether the relationship was cross-sex or same-sex did not have a significant effect on jealousy, B = -.67, SE = .46, p = .147, however, the interaction between this variable and gender was significant, B = 1.38, SE = .58, p = .019. For ease of interpretation, Figure 3 demonstrates the interaction effect. The figure suggests that males experienced greater jealousy in cross-sex relationships and females experienced greater jealousy in same-sex relationships[6].

Finally, I examined the path between jealousy and the degree of helpfulness, also finding it to be significant, B = -.05, SE = .02, p = .015. The direct effect of gender on helpfulness was not significant, regardless of whether participants were in a cross-sex, B = .056, SE = .09, p = .379, or same-sex relationship, B = .03, SE = .09, p = .723. The indirect effect between gender and the degree of helpfulness was significant for same-sex relationships as 95% confidence intervals excluded zero, B = .06, SE = .03, [.007, .157], but not for cross-sex relationships, as 95% confidence intervals included zero, B = -.00,

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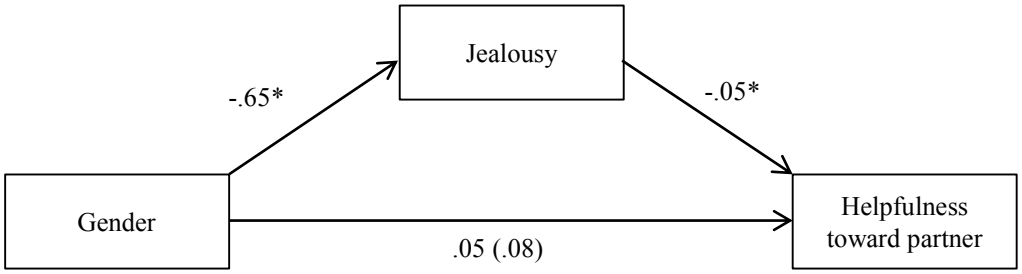
[6] This result could also be explained by the gender of the partner, especially considering that Study 2 data reveals on average, individuals experience more jealousy when their partner is a female (vs. a male). Additionally, because the presence of a close relationship between the focal person and the partner is key to eliciting jealousy, it is possible that when the partner is able to provide the focal person with expressive benefits (i.e., a female partner), jealousy will be stronger, and by extension, jealousy will be greater.



Note. N = 125. Gender is coded female = 0, male = 1. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model. *$p < .05$.

Figure 2. The Indirect Effect of Gender on Helpfulness Toward the Partner (Study 2)

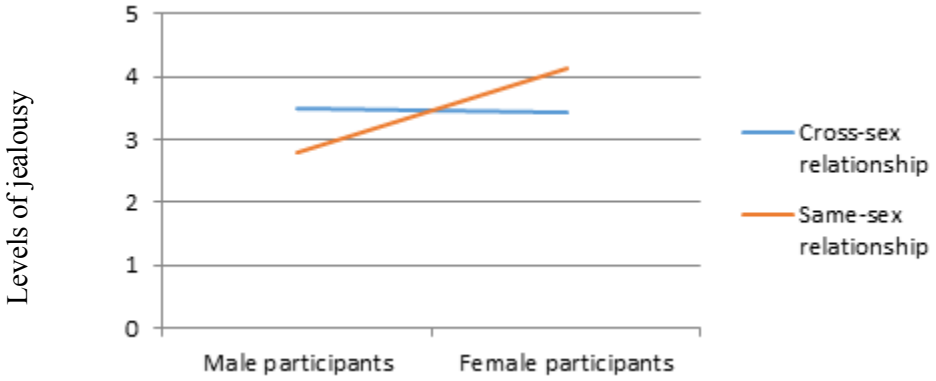


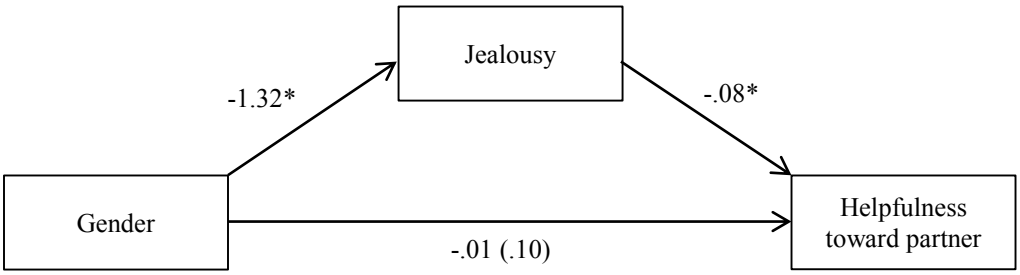
Figure 3. The Interaction Effect of Gender and Whether or Not Participant Was in a Same-Sex or Cross-Sex Relationship (Study 3)

SE = .02, [-.055, .040]. Controlling for the effects of age did not change the significance of the moderated mediation. The direct effect of gender on helpfulness was not significant for cross-sex relationships, *B* =.05, *SE* = .09, *p* = .604, or for same-sex relationships, *B* =.02, *SE* = .09, *p* = .859; the indirect effect for same-sex relationships was significant, *B* = .06, *SE* = .0, 95%CI [.007, .154], while the indirect effect for cross-sex relationships was not significant, *B* = -.00, *SE* = .02, 95%CI [-.056, .037]. This suggests that males are more helpful than females when they are in same-sex relationships; the gender of the individual does not indirectly, through jealousy, affect the degree of helpfulness when the individuals is in a cross-sex relationship (Figures 4 and 5). Hypothesis 4a was not supported.

Testing Hypothesis 4b with Aggression Toward the Partner
as the Dependent Variable

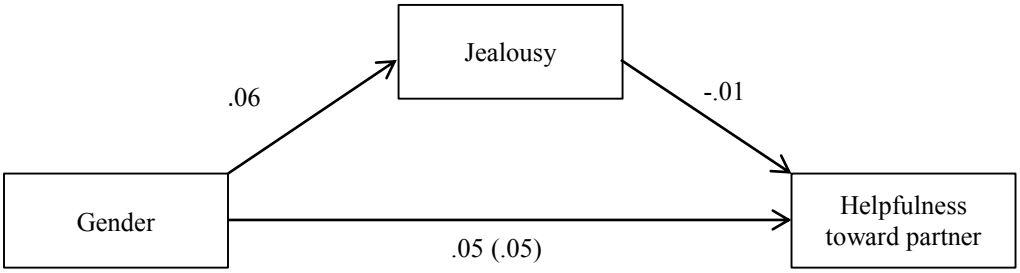
To test Hypothesis 4b, which states that males more than females will engage in aggressive behaviors toward their partners – the effect accentuated to the extent that males are in a cross-sex relationship, I followed the procedures recommended by Preacher and Hayes (2008) to test the proposed model. For the analysis, I used the SPSS macro designed by Preacher and Hayes (2009) for analyzing mediation: all bootstrap analyses are based on 5,000 bootstrap samples.

First, I tested the un-moderated (i.e., simple) mediation model, where the gender of the participant was included as the independent variable (males were coded as "1," females were coded as "0"), jealousy composite was included as the mediator, and a measure of aggression toward the partner was included as the dependent variable. The relationship between the gender of the participant and jealousy was significant, *B* = -.67,



Note. N = 64. Gender is coded female = 0, male = 1. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model. *$p < .05$.

Figure 4. The Indirect Effect of Gender on Helpfulness Toward the Partner in Same-Sex Relationships (Study 2)

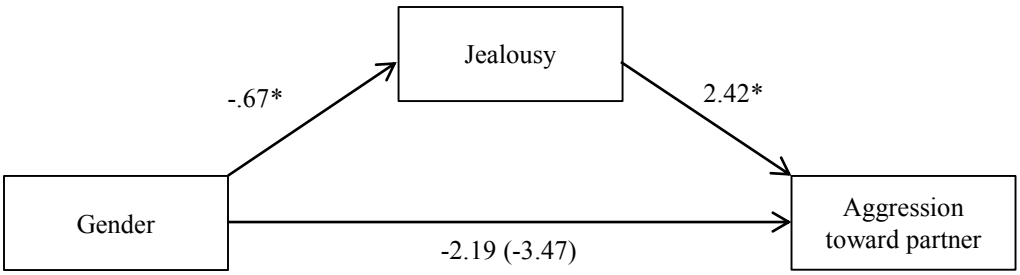


Note. N = 61. Gender is coded female = 0, female = 1. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model.

Figure 5. The Indirect Effect of Gender on Helpfulness Toward the Partner in Cross-Sex Relationships (Study 2)

SE = .30, *p* = .027, suggesting that females experienced greater jealousy than males. Next, I examined the second mediation path – the path between the levels of jealousy and the degree of aggression. The relationship between jealousy and aggression was marginally significant, *B* = 2.22, *SE* = 1.17, *p* = .059. In other words, controlling for the effects of gender, greater jealousy was associated with more aggression. Finally, both the direct effect, *B* = -1.39, *SE* = 3.90, *p* = .723, and the indirect effect, *B* = -1.48, *SE* = 1.22, 95% CI [-5.102, .043] of gender on aggression were nonsignificant. This suggested that following experience of jealousy, females are not more likely to direct aggression toward their partners, compared to males. Controlling for the effects of age, however, *did* alter the significance of the un-moderated mediation. Although the direct effect of gender on helpfulness remained nonsignificant, *B* = -2.19, *SE* = 3.99, *p* = .585, the indirect effect became significant, *B* = -1.61, *SE* = 1.26, 95%CI [-5.146, -.002]. As such, after controlling for the effects of age, females were more likely to direct their aggression to their partners, compared to males (Figure 6).

Next, I tested the moderated mediation model, where I have included the variable indicating whether the relationship was cross-sex (coded as "1") or same-sex (coded as "0") as the moderator of the simple mediation described above. First, I examined the path between gender and jealousy, finding it to be significant, *B* = -1.32, *SE* = .41, *p* = .002. Included in the same equation, the variable indicating whether the relationship was cross-sex or same-sex did not have a significant effect on jealousy, *B* = -.67, *SE* = .46, *p* = .148, however, the interaction between this variable and gender was significant, *B* = 1.35, *SE* = .58, *p* = .022. The interaction terms suggests that males experience greater jealousy in cross-sex relationships, while females experience greater jealousy in same-sex



Note. N = 125. Gender is coded female = 0, male = 1. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model. *$p < .05$.

Figure 6. The Indirect Effect of Gender on Aggression Toward the Partner

relationships.

Finally, I examined the path between jealousy and the degree of aggression toward the partner, finding it to be significant, $B = 2.50$, $SE = 1.20$, $p = .040$. The direct effect of gender on aggression toward the partner was not significant, regardless of whether participants were in a cross-sex relationship, $B = -5.31$, $SE = 5.50$, $p = .336$, or in a same-sex relationship, $B = 2.66$, $SE = 5.58$, $p = .63$. The indirect effect of gender on aggression toward the partner was significant for same-sex relationships as 95% confidence intervals excluded zero, $B = -3.30$, $SE = 2.28$, [-9.859, -.208], but were not significant for cross-sex relationships, as 95% confidence intervals included zero, $B = .08$, $SE = 1.14$, [-1.964, 2.860]. Controlling for the effects of age did not change the significance of the moderated mediation: the direct effect of gender on aggression was not significant for same-sex relationships, $B = 1.63$, $SE = .5.69$, $p = .77$, or for cross-sex relationships, $B = -5.81$, $SE = 5.53$, $p = .296$; the indirect effect for same-sex relationships was significant, $B = .-3.52$, $SE = 2.34$, 95%CI [-9.521, -.279] and the indirect effect for cross-sex relationships was not significant, $B = .09$, $SE = 1.24$, 95%CI [-2.192, 3.023]. This suggests that females are more aggressive toward their partner than males when they are in same-sex relationships; the gender of the individual does not indirectly, through

jealousy, affect the degree of aggression toward the partner when the individual is in a cross-sex relationship[7]. As such, although the model was significant, Hypothesis 4b was not supported.

Testing Hypothesis 4b with Aggression Toward the Rival
as the Dependent Variable

To test hypothesis 4b, with aggression toward the rival (rather than the partner) as the outcome of jealousy, I first tested a simple mediation model, where gender of the participant was included as the independent variable (males were coded as "1," females were coded as "0"), jealousy composite was included as the mediator, and a measure of aggression toward the rival was included as the dependent variable. The relationship between the gender of the participant and jealousy was significant, B = -.67, SE = .30, p = .027, suggesting that females experienced greater jealousy than males. Next, I examined the second mediation path between gender and jealousy – the path between the levels of jealousy and the degree of aggression – finding it to be significant, B = -1.32, SE = .41, p = .002. The relationship between jealousy and helpfulness was marginally significant, B = 1.79, SE = 1.08, p = .099. In other words, controlling for the effects of gender, greater jealousy was associated with greater aggression. Finally, both the direct, B = -1.68, SE = 3.61, p = .643, and the indirect effects, B = -1.19, SE = 1.15, 95% CI [-4.637, .183] of

[7] Unfortunately, I could not present the results of the moderated mediation using two figures of simple mediation, one – including only individuals in cross-sex relationships and the other – including individuals only in same-sex relationships, due to low power. Specifically, according to the power analysis (F test, Linear multiple regression: Fixed model, R^2 deviation from zero, effect size = .033, α = .05, power = .08, number of predictors = 1), I required at least 237 participants to obtain significant results for a simple mediation between gender (independent variable), jealousy (mediator), and aggression toward the partner (dependent variable). However, the total numbers of participants who were in same-sex and cross-sex relationships in my dataset were 60 and 64, respectively.

gender on aggression were nonsignificant. Controlling for the effects of age did not alter the significance of the un-moderated mediation. Both the direct effect of gender on aggression toward the rival, *B* = -2.21, *SE* = 3.702, *p* = .551, and the indirect effect of gender on aggression toward the rival, *B* = -1.28, *SE* = 1.17, 95%CI [-4.660, .188] remained nonsignificant. This suggested that following experience of jealousy, females are no more likely to direct aggression toward their rivals, compared to males.

Next, I tested the moderated mediation model, where I have included the variable indicating whether the relationship was cross-sex (coded as "1") or same-sex (coded as "0") as the moderator of the simple mediation described above. First, I examined the path between gender and jealousy, finding it to be significant, *B* = -1.32, *SE* = .41, *p* = .002. Included in the same equation, the variable indicating whether the relationship was cross-sex or same-sex did not have a significant effect on jealousy, *B* = -.67, *SE* = .46, *p* = .15, however, the interaction between this variable and gender was significant, *B* = 1.35, *SE* = .58, *p* = .022. The interaction term indicates that males experience greater jealousy in cross-sex relationships, while female experience greater jealousy in same-sex relationships.

Finally, I examined the path between jealousy and the degree of aggression toward the partner, finding it to be marginally significant, *B* = 2.01, *SE* = 1.11, *p* = .073. The direct effect of gender on aggression toward the partner was not significant, regardless of whether participants were in a cross-sex, *B* = -4.98, *SE* = 5.10, *p* = .331, or same-sex relationship, *B* = 1.72, *SE* = 5.17, *p* = .740. The indirect effect between gender and the degree of aggression toward the rival was nonsignificant for both same-sex relationships as 95% confidence intervals included zero, *B* = -2.65, *SE* = 2.12, [-8.516,

.285], and for cross-sex relationships, *B* = .07, *SE* = .99, [-1.657, 2.611]. Controlling for the effects of age did not change the significance of the moderated mediation. Both the direct effect of gender on aggression for same-sex relationships, *B* = 1.06, *SE* = 5.29, *p* = .841, and for cross-sex relationships, *B* = -5.30, *SE* = 5.14, *p* = .305, remained non-significant. Similarly, the indirect effect of gender on aggressiveness toward the rival for same-sex relationships, *B* = -2.80, *SE* = 2.23, 95%CI [-8.735, .209], and for cross-sex relationships, *B* = .07, *SE* = 1.05, 95%CI [-1.814, 2.751], remained nonsignificant. This suggests that regardless of whether people are in cross-sex or same-sex relationships, gender does not affect the degree of aggression toward the rival. As such, the model did not support Hypothesis 4b.

In sum, Study 2 produced mixed support for the hypotheses. Hypothesis 1b, which states that individuals in triads with same-sex rivalry will experience greater jealousy than those in cross-sex rivalry was supported, only after controlling for the effects of age. Hypothesis 2b, which states that females with a male rival will experience greater jealousy than males with a female rival was supported, with or without controlling for the effects of age. Hypothesis 4a, which states that females (more than males) will respond to jealousy with greater helpfulness toward their partners, especially if they are in cross-sex relationships, was not supported. In fact, the opposite was found: males (more than females) responded to jealousy with greater helpfulness toward their partners, especially when they were in same-sex relationships. These results were found regardless of whether I controlled for the effects of age or not. Finally, Hypothesis 4b, which states that males (more than females) will respond to jealousy with aggression, especially if they are in cross-sex relationships, was not supported. I found that, regardless of whether

age was included as a control variable or not, females (more than males) responded to jealousy with aggression toward their partner, especially when they were in same-sex relationships; I did not find a significant relationship between gender and aggression toward the rival in either cross-sex or same-sex relationships.

Study 3

Studies 1 and 2 tested the hypotheses in a laboratory setting. To compensate for the artificial, though controlled, laboratory environment I conducted Study 3 in an organizational setting, in order to examine whether the results obtained in the first two experimental studies can be generalized to a real workplace sample as well as to test the remaining hypotheses (i.e., Hypotheses 1a, 2a, and 3).

Methods

Sample

According to *a priori* power analysis conducted using G*Power 3.1.2 (Buchner et al., 2009; ANOVA fixed effects, special, main effects and interactions, effect size f = .20 (small-medium), power = .80, numerator *df* = 1, number of groups = 8), I required about 128 participants in my dataset to make meaningful conclusions from the data. In actuality, I needed an even greater number of participants, given the results of Miner's (1990) study, wherein he showed that only about a third of employees have experienced jealousy in their workplace. With that ratio factored in, I needed a total of about 384 employees to participate in my study.

I recruited participants from a large U.S. biotechnology firm. The Human Resources (HR) manager at the company sent out the details of the study and the link to

the online survey. In that email was also included the endorsement letter signed by the HR Manager, as well as the invitation to participate in the study signed by my advisor, Professor Arthur Brief, and myself. Participants were given one week to respond, following which the HR manager sent a follow-up email reminding employees about the study and soliciting their participation. As an incentive to participate, participants were entered into a drawing for a chance to win a $250 gift certificate to a steakhouse, a $250 gift certificate to Nordstrom, or an iPad.

In total, 437 employees participated in the study (151 males, 286 females). Thus out of total 1327 possible employees, 33% participated in the study. Descriptive statistics for the sample are presented in Table 6.

Measures[8]

Identifying individuals involved in a jealousy triad and assessing the level of jealousy. Participants were asked to think of several (up to 5) individuals within their organization with whom they currently have or have had a close relationship in the past year. They were then asked whether in one of their close relationships they have ever felt jealous or feared being replaced when the person with whom they are/were close developed a close relationship with another person at work. To clarify the language, I provided a graphical representation of the relationship between individuals within the triad[9]. If participants selected "no" to this question about jealousy, they were directed to the end of the survey; if they selected "yes," they were asked to describe the individual

[8] For the complete list of measures and the exact wording of those measures as they appeared in the survey, see Appendix D.

[9] To ensure that my explanation of the jealousy triad was clear to the participants, I pretested my explanation with a group of 10 employees working in the same biotechnology company. Their positive feedback indicated that my explanation was sufficiently clear.

Table 6. Baseline Characteristics of the Sample (Study 3; $N = 437$)

Variables	N or *M*	% or *SD*
Gender		
Male	151	34.6
Female	286	65.4
Age	34.2	10.7
Marital status		
Single	101	23.1
Dating someone for less than 6 months	15	3.4
Dating someone for more than 6 months	60	13.7
Married	248	56.8
Widowed	4	.9
Divorced	41	9.4
Race		
African American	7	1.6
American Indian	8	18
Asian	39	8.9
Hispanic	26	5.9
White	363	83.1
Sexual orientation		
Heterosexual	397	90.8
LGBTQ	32	7.5
Education		
No schooling completed	0	
High school diploma (or GED)	34	7.9
Some college credit, but not degree	139	32.2
Associate's degree	52	12
Bachelor's degree (B.A., B.Sc., etc.)	178	41.2
Master's degree	26	6
Ph.D., M.D., other doctorate	3	.7
Work status		
Full-time	377	88.1
Part-time	51	11.7
Tenure	6.6	6.3
Number of levels between the respondent and the top of organization	5.3	2.1
Division		
Chemistry	56	12.8
Infectious Diseases	116	26.5
Specimen Handling	154	35.2
Client Services	61	14
Exception Handling	23	5.3
Health Clinic	5	1.1
Human Resources	14	3.2
Institute for Learning	2	.5
Editing	1	.2
PAFT	1	.2

with whom they have or have had a close relationship (i.e., Person A depicted on the diagram) by answering a series of demographic questions about him/her[10]. In an effort to ensure that participants have had a close bond with their partner before it was usurped by the rival (with the intent of saying whether jealousy rather than ostracism was manipulated) participants were asked to respond to the question: "Please indicate the extent to which you felt close to this individual before your relationship was threatened" on a scale from 1 to 7 (1 – not close at all, 7 – very close).

Participants were then directed to three scales assessing the three types of possible benefits this person (i.e., Person A) might have been or might still be getting out of this close relationship. Items for these three measures were derived by conducting a pretest wherein 205 participants were first asked whether they have been jealous of someone at work (using the same terminology as explained above) and then, those who responded affirmatively ($N = 96$), were directed to items assessing instrumental, expressive and sex-based benefits their partner may have received from them. Items assessing instrumental benefits were adapted from Raggins and Cotton (1999), tapping the job-related dimension of these benefits, and Anderson and Williams (1996) tapping the career-development dimension of these benefits. Items assessing expressive benefits were adapted from Anderson and Williams (1996) and Zimet, Dahlem, Zimet, and Farley (1988). Finally, two items assessing sex-based benefits were adapted from Elliot and Niesta (2008). All items were measured on a 1 (not characteristic of my relationship with Person A) to 7 (very characteristic of my relationship with Person A) point scale. Principal component

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[10] Regardless of whether participants had experienced jealousy in the workplace or not, their names were entered in the drawing for one of the three prizes.

analysis (PCA) was performed with using direct oblimin as the rotation method. The results of PCA yielded four reliable factors with Eigen values greater than 1: two of the factors tapped both dimensions of instrumental benefits while the other two tapped expressive and sex-based benefits. To assess instrumental benefits in Study 3, I selected the three items that loaded the highest on the job-related dimension (e.g., I give Person A suggestions for easier ways of accomplishing tasks) and three items that loaded the highest on the career-development dimension (e.g., I help Person A be more visible in the organization). To assess expressive benefits in Study 3, I selected the three items that loaded the highest on expressive factor (e.g., Person A can share with me his/her joys and sorrows). Finally, to assess sex-based benefits in Study 3, I selected both of the items included in the pretest (e.g., Person A finds me attractive), as both of them loaded highly on the factor. All items selected loaded highly on each respective dimension, with the lowest loading-item loading at .789. In addition to using the items adapted from existing measures, several additional items derived from past conceptual literature were also included in the final questionnaire.

Participants were also asked to describe the person at work who has threatened their close relationship (i.e., Person B) by identifying him/her on a number of demographic questions. They were then asked to assess the three types of benefits with which the individual to whom they are closest at work (i.e., the partner – Person A) might be getting out of the relationship with an individual who had attempted to usurp their close relationship at work (i.e., the rival – Person B). The benefits-related items were the same as those appearing in the section of this questionnaire on the relationship between the participant and his/her partner.

Lastly, participants were asked to indicate how a potential or an actual relationship that emerged between the partner and the rival made them feel. They were presented with a list of 11 emotions comprising the jealousy measure (i.e., hurt, jealous, angry, betrayed; DeSteno and Salovey, 1996) and were asked to rate the intensity of each emotion (1 – not strong at all, 7 – very strong).

Aggression. A measure of aggression was administered to evaluate the extent to which participants, whose close relationship (with Person A – the partner) was threatened by another person (Person B – the rival), act aggressively toward their partner and the rival. Because overtly hostile aggression is unlikely to occur within professional settings, I relied on a compilation of more passive measures of aggression, such as social undermining, deviance and incivility.

Employees completed an 8-item measure of aggression. Four of the items (e.g., "Put him/her down or was condescending to him/her") were adapted from Cortina, Magley, Williams, and Langhout (2002) workplace incivility measure. Two other items (e.g., "Talked badly about him/her behind his/her back") were adapted from social undermining measure (Duffy, Ganster, & Pagon, 2002). The two last items (i.e., "Acted rudely toward him/her at work") was adapted from workplace deviance measure (Bennett & Robinson, 2000). Participants were asked to rate the extent to which they agree that these items represent how they acted toward both the person with whom they have a close relationship at work (i.e., the partner – Person A) and the person who has threatened their close relationship (i.e., the rival – Person B) in the last several months. Ratings were made on a 7-point scale (1 – strongly disagree, 7 – strongly agree).

Helpful behavior. Employee helpfulness toward the rival and the partner was

assessed by using 12 of the interpersonal citizenship behavior items adapted from Settoon and Mossholder (2002). Examples of items include: "Assisted him/her with heavy workloads even though it is not part of your job" and "Helped him/her with work when he/she has been absent." Participants were asked to rate the extent to which they agree that these items represent how they acted toward the person with whom they have a close relationship at work (i.e., the partner) in the last several months on a 7-point scale (1 – strongly agree, 7 – strongly disagree).

***Demographic information/Controls*.** I collected information about several variables: marital status, ethnicity, age, and, part-time vs. full-time work schedule, education and organizational tenure. Furthermore, given that one of the goals of this dissertation is to examine how jealousy varies across triads of different sex compositions and because it is likely that males and females do not occupy organizational levels in similar proportions (with men likely occupying more upper levels and women likely occupying more lower levels), I planned to control for organizational level of individuals in the triad to eliminate the possible gender confounds. I also collected information on the length of time for which a participant has known the person identified as the partner to ensure that the participant has had at least a one-month relationship with the person he/she has identified as the partner.

Lastly, given that jealousy is often concurrently experienced with envy, as discussed earlier, it was important to measure both in order to demonstrate that the reported feelings of jealousy are conceptually distinct from envy. As such, I measured and planned to control for the feelings of envy by administering a scale adapted from Cohen-Charash (2009). Similar to Study 1 and Study 2, I planned to control for

ostracism. For the complete list of measures in Study 3, please see Appendix D.

Attention check questions. Given the length of the survey, it was important to ensure that participants were paying attention to the questions they were answering. To that end, I included several attention check questions throughout the survey. For example, mixed among the jealousy items, one attention check item read: "On a scale from 1 to 9 below, please select scale point # 8."

Results

Out of all the respondents, 120 (i.e., 27.4%) noted that they experienced jealousy in their workplace. Before conducting any analyses, I created composites of jealousy items, of ostracism items, and of envy items. Reliability analyses for measures of jealousy, of envy and of ostracism revealed that the items comprising each scale were internally consistent, $\alpha = .93$, $\alpha = .88$, and $\alpha = .83$, respectively. I also created composite measures of each of the benefit types. I found that items making up the instrumental, expressive, and sex-based benefits the *focal person provides to his or her partner* were internally consistent, $\alpha = .89$, $\alpha = .84$, and $\alpha = .94$, respectively, as were the instrumental, expressive, and sex-based benefits *the rival provides to the focal person's partner*, $\alpha = .91$, $\alpha = .86$, and $\alpha = .96$, respectively. Finally, I created a composite measure of helpfulness toward the partner ($\alpha = .90$), aggression toward the partner ($\alpha = .81$), and aggression toward the rival ($\alpha = .87$).

To examine the relationships between gender, jealousy and each of the dependent variables, I first filtered out several participants. First, I filtered out participants: 1) who did not correctly respond to the comprehension check question which asked them to identify which individual (i.e., a partner or a rival) in the diagram presented to them was

denoted as "A" and "B" (see diagram in the Appendix D), 2) who had spent less than 10 seconds reading the extensive set of explanations about the jealousy triad (as pretest of the survey with 15 individuals suggested that participants require at least 11 seconds to finish reading the explanations), 3) who failed to pass several attention check questions, which were dispersed throughout the survey, and 4) who had known the person they identified as their partner (i.e., Person A) for less than a month and who indicated their closeness level with their partner to be "1" (not close at all) on a 7-point scale. After filtering out these participants, 102 remaining participants were included in the analysis.

In general, the results of the linear regression revealed that, similar to Study 2, females (coded as "0", $M = 4.52$, $SD = 1.96$) experienced more jealousy compared to males (coded as "1", $M = 3.59$, $SD = 1.70$), $F(1, 100) = 5.212$, $B = -.935$, $p = .025$. Using linear regression I also found that jealousy did not appear to be affected by the gender of the partner (males: $M = 4.36$, $SD = 2.00$; females: $M = 4.18$, $S = 1.89$), $F(1, 100) = .205$, $B = .178$, $p = .652$, or the rival (males: $M = 4.17$, $SD = 1.86$; females: $M = 4.30$, $SD = 1.98$), $F(1, 100) = .111$, $B = -.131$, $p = .740$. Interestingly, and as will be shown, although jealousy levels failed to predict helpfulness toward the partner in the regression equation, $F(1, 83) = .036$, $B = -.012$, $p = .850$, they did predict aggression toward the partner, $F(1, 83) = 14.251$, $B = .170$, $p = .000$, and aggression toward the rival, $F(1, 94) = 20.953$, $B = .241$, $p = .000$. The means and correlations for variables included in the analyses are reported in Table 7, while the means for each of these and other variables, as a function of triad type, are displayed in Table 8.

The results of Table 8 suggest that in a naturalistic setting – within which Study 3 was conducted – the cell sizes are vastly different. In other words, in the workplace,

Table 7. Means, Standard Deviations, and Correlations (Study 3)

	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Gender of focal person	.23	.46														
(2) Gender of partner	.38	.49	.20*													
(3) Gender of rival	.38	.49	.60**	.13												
(4) Instrumental benefits by f.p.[1]	3.50	1.58	.06	-.02	.17											
(5) Expressive benefits by f.p.	6.11	1.01	-.25*	-.09	-.11	.18										
(6) Sex-based benefits by f.p.	2.05	1.80	.06	.32**	.05	.04	-.05									
(7) Instrumental benefits by riva	2.97	1.53	-.00	.04	.24*	.57**	.07	.11								
(8) Expressive benefits by rival	4.92	1.50	-.16	.06	-.13	-.20*	.25*	-.17	.06							
(9) Sex-based benefits by rival	2.12	1.86	.03	.18	-.01	-.11	.05	.61**	-.06	-.08						
(10) Helpfulness toward partner	5.37	1.03	-.01	-.10	.07	.16	.35**	-.23*	.15	.07	-.16					
(11) Aggression toward partner	1.82	.81	.06	.05	.15	.27**	-.03	.29**	.12	-.09	.22*	-.34**				
(12) Aggression toward rival	2.23	1.09	.10	.15	.07	.28**	.12	.33**	.12	-.21*	.22*	.03	.43**			
(13) Envy	3.34	1.18	-.03	.08	.07	.24*	.11	.20*	.22*	-.03	.22*	.06	.35**	.52**		
(14) Ostracism	6.08	2.26	-.22*	.00	-.05	.24*	.21*	.12	.19	.05	.12	.26**	.19	.20*	.49**	
(15) Jealousy	4.25	1.92	-.22*	.05	-.03	.39**	.17	.43**	.29**	-.03	.31**	.01	.40**	.41**	.56**	.64**

Note. N = 102. [1] focal person. Gender is coded female = 0, male = 1. *$p < .05$, **$p < .01$.

Table 8. Means of Dependent Variables (Study 3)

Triad Type (Focal Person–Partner–Rival)	*N*	$M_{jealousy}$ (SD)	$M_{instrumental\ benefits\ provided\ by}$		$M_{expressive\ benefits\ provided\ by}$		$M_{sex\text{-}based\ benefits\ provided\ by}$		$M_{helpfulness}$ (SD)	$M_{aggression\ toward\ partner}$ (SD)	$M_{aggression\ toward\ rival}$ (SD)
			Focal person to partner (SD)	*Rival to partner* (SD)	*Focal person to partner* (SD)	*Rival to partner* (SD)	*Focal person to partner* (SD)	*Rival to partner* (SD)			
Triad 1: Male–Male–Male	13	3.11 (1.57)	3.87 (1.69)	3.77 (1.47)	5.90 (.93)	4.92 (.94)	1.65 (1.60)	1.34 (1.02)	5.29 (.86)	2.17 (.91)	2.55 (1.25)
Triad 2: Male–Male–Female	3	3.48 (1.51)	2.44 (1.26)	1.33 (.58)	5.44 (2.14)	6.22 (1.07)	1.17 (.29)	3.67 (3.06)	5.83 (.71)	1.17 (.29)	2.71 (1.16)
Triad 3: Male–Female–Male	12	4.37 (1.76)	3.97 (1.31)	2.81 (1.30)	5.83 (1.10)	3.69 (1.85)	3.29 (1.63)	2.92 (1.72)	5.38 (1.23)	1.86 (.83)	2.31 (1.35)
Triad 4: Male–Female–Female	2	2.23 (1.09)	2.08 (1.53)	1.75 (1.06)	4.33 (.47)	4.67 (.94)	1.00 (.00)	1.00 (.00)	4.92 (1.41)	1.38 (.53)	1.38 (.53)
Triad 5: Female–Male–Male	5	5.62 (1.74)	4.60 (1.91)	3.43 (1.97)	6.13 (.87)	4.60 (1.21)	2.90 (2.61)	1.20 (.45)	5.45 (1.18)	2.00 (.93)	2.08 (1.31)
Triad 6: Female–Male–Female	18	5.07 (1.97)	3.05 (1.28)	2.72 (1.55)	6.11 (1.02)	5.02 (1.25)	3.83 (2.53)	3.56 (2.41)	5.03 (1.15)	1.73 (.65)	2.40 (1.06)
Triad 7: Female–Female–Male	9	4.64 (1.87)	3.24 (1.51)	3.96 (1.26)	6.15 (1.25)	5.67 (1.15)	1.00 (.00)	2.56 (2.23)	5.80 (.69)	1.79 (.56)	2.13 (1.16)
Triad 8: Female–Female–Female	40	4.12 (1.95)	3.55 (1.68)	2.81 (1.51)	6.39 (.80)	5.03 (1.62)	1.26 (.60)	1.44 (1.26)	5.42 (1.03)	1.78 (.90)	2.07 (.96)
Total	102	4.25 (1.92)	3.51 (1.58)	2.97 (1.53)	6.11 (1.01)	4.92 (1.50)	2.05 (1.81)	2.12 (1.86)	5.37 (1.03)	1.82 (.81)	2.23 (1.09)

some triads are more prevalent than others. By far, the most prevalent type of jealousy triad includes a female focal person, a female partner, and female rival; male focal person-male partner-female rival and male focal person-female partner-female rival triads occur least frequently. As such, provided low sample size of certain cells, it is more logical to focus on the differences between groups of cells, such as, for example, when comparing cells with same-sex rivalry to cells with cross-sex rivalry (Hypothesis 1b) and testing the rest of the hypotheses, rather than describing and discussing the differences between the means of individual cells.

Before moving onto hypothesis testing, it is important to discuss the proposed control variables. In this study, where relevant, I intended to control for three variables. The first control variable – organizational rank of individuals within the jealousy triad – was intended to parse out the effect of a potential gender confound. Specifically, to make meaningful conclusions about the effect of gender on jealousy, it is important to ensure that gender is not confounded with organizational rank, such that, for example, all men occupy managerial positions, while all women occupy administrative positions. However, examination of the correlation coefficients between the genders of each individual within the jealousy triad and their respective ranks, revealed no significant association between the two. Specifically, the relationships were not significant between: 1) focal person's gender and the organizational rank (measured as the number of levels between the rank they occupy and the person at the top of the organization) of the focal person, $r = -.17$, $p = .100$, 2) the gender and the organizational rank of the partner, $r = -.01$, $p = .923$, and 3) the gender and the organizational rank of the rival, $r = -.05$, $p = .625$. As such, because gender did not appear to predict organizational rank, I will not be controlling for the

organizational rank of individuals of the jealousy triad. The second variable I intended to use as control is the composite measure of ostracism. As in Study 2, feelings of ostracism were highly correlated with feelings of jealousy, $r = .64$, $p = .000$, and the items from both measures revealed high internal consistency, $\alpha = .93$. However, unlike Study 2, where participants interacted with their "partner" for only several minutes, Study 3 participants had at least a month to develop a close relationship with the person they identified as their partner. As such, to examine whether ostracism may still comprise a part of jealousy experience or whether the two emotions are distinct, I controlled for ostracism in tests of my hypotheses linking jealousy to 1) benefits provided, 2) gender composition of the triad, and 3) behavioral outcomes. Finally, the third variable I intended to use as a control is the composite measure of envy. Similar to feelings of ostracism, feelings of envy were highly correlated with feelings of jealousy, $r = .56$, $p = .000$, and the items from both measures revealed high internal consistency, $\alpha = .92$. As such, to examine whether the two constructs are distinct or not, I controlled for envy.

The sections below proceed as follows. I start by testing hypotheses pertaining to whether or not the rival and the focal person provide the partner with same types of benefits. As such, I first test Hypothesis 1a (i.e., jealousy will be higher when the rival is able to provide the partner with the same benefits compared to different benefits as the focal person) and then Hypothesis 1b (i.e., same-sex rivalry will evoke greater jealousy than cross-sex rivalry). I then proceed to the next set of hypotheses pertaining to situations in which the rival and the focal person provide the partner with *different* types of benefits. As such, I first test Hypothesis 2a (i.e., in triads where the rival provides the partner with a more coveted type of benefits – instrumental – compared to the focal

person, the latter will experience more jealousy) and then Hypothesis 2b (i.e., in triads with cross-sex rivalry, having a male rival will elicit greater jealousy than a female rival). Finally, I test the hypotheses related to the behavioral outcomes of jealousy. I start by testing Hypothesis 4a, which states that females (more than males) will have a greater tendency to respond to jealousy with helpfulness toward their partner, the tendency especially pronounced in cross-sex compared to same-sex relationships. I then test Hypothesis 4b, which states that males (more than females) will have a greater tendency to respond to jealousy with aggression, the tendency especially pronounced in cross-sex compared to same-sex relationships. I first test this hypothesis with "aggression toward the partner" as the dependent variable and then – with "aggression toward the rival" as the dependent variable.

Testing Hypothesis 1a

To test Hypothesis 1a, which states that jealousy will be stronger to the extent that the focal person and the rival provide the partner with *qualitatively* the same types of benefits compared to *qualitatively* different types of benefits, I first recoded the continuous composite values for each of three benefit types that participants indicated *they provided to their partner* into dichotomous variables. There are at least two ways in which the composite values for each of the three benefit types could be recoded into respective dichotomous qualitative variables: 1) assigning the participants, whose composite value was below the middle point of the benefits scale, a score of "0," and assigning the participants, whose composite value was above the middle point of the benefits scale, a score of "1", and 2) performing a median split, such that participants whose composite score was below the median received a score of "0" and participants

whose composite score was above the median received a score of "1." Both methods have advantages. For example, the "middle-point-on-the scale split" method splits participants on the basis of scale anchors, each of which corresponds to different degrees to which a particular benefit is characteristic of their relationship. As such, those who, for example, selected a scale point lower than the middle one were well aware that a particular benefit is *less* than somewhat characteristic of their relationship, thus indicating that this particular benefit was not very prevalent in their relationship. The "median split" method, however, takes into account that some benefits may be more common than others in a particular setting. As such, participants are split according to their provision of a particular type of benefits in a particular setting, *relative* to other people in that setting. Because both methods have advantages, I dichotomized the composite values for each of the benefit types using both methods.

Specifically, with respect to the first method – "middle-point-on-the-scale split," participants received a score of "0" for each of the benefit types if they indicated that a particular benefit was less than "somewhat characteristic" (i.e., the middle point on the 7-point scale) of their relationship with their partner. For example, they received a score of "0" for instrumental benefits if the composite score of a 6-item measure was less than 4 on a 7-point scale. By contrast, participants received a score of "1" for each of the benefit types if they indicated that a particular benefit was more than "somewhat characteristic" of their relationship with their partner. The measures of three benefit types that the *rival provided to the partner* were recoded in a similar manner.

With respect to the second method – "median split," I first calculated the median for each of the benefit types that the focal person and the rival provided to the partner.

Participants received a score of "0" if their composite value was at or below the median value of each of the benefit types. By contrast, participants received a score of "1" if their composite value was above the median value for each of the benefits types.

Using the results obtained with the "middle-point-on-the-scale split" method, I then compared jealousy composite of the 48 triads in which the focal person and the rival provided the partner with qualitatively completely the same types of benefits (coded as "1", $M = 3.65$, $SD = 1.61$) to the three triads in which the focal person and the rival provided the partner with qualitatively completely different types of benefits (coded as "0", $M = 4.24$, $SD = .86$). The results of linear regression, where the type of triad was included as the independent variable and jealousy composite was included as the dependent variable, revealed a nonsignificant effect, $F(1, 49) = .39$, $B = -.59$, $p = .536$. Controlling for the effects of envy and ostracism, per my initial intention, did not change the results of the regression; the relationship between the types of benefits provided and jealousy remained insignificant, $B = .36$, $p = .604$. The results suggest that types of benefits provided by the focal person and the rival to the partner (i.e., same vs. different benefits) do not affect the levels of jealousy, with or without controlling for the effects of ostracism and envy. Due to a strong imbalance between the cell sizes, however, the results should be interpreted with great caution. To attempt to at least partially overcome the bias resulting from the imbalance in cell sizes, a Mann-Whitney U Test (i.e., a nonparametric test comparing two independent samples; Whitley & Ball, 2002) was conducted. Consistent with the results of linear regression, the Mann-Whitney U Test revealed that there were no significant differences in terms of levels of jealousy between the two types of triads (i.e., "same benefits" and "different benefits"), $p = .459$.

Using the results obtained with the "median split" method, I then compared jealousy composite of the 40 triads in which the focal person and the rival provided the partner with qualitatively completely the same types of benefits (coded as "1," $M = 4.25$, $SD = 1.65$) to the six triads in which the focal person and the rival provided the partner with qualitatively completely different types of benefits (coded as "0," $M = 4.33$, $SD = 1.52$). The results of linear regression, where the type of triad was included as the independent variable and jealousy composite was included as the dependent variable, revealed a nonsignificant effect, $F(1, 43) = .02$, $B = -.09$, $p = .903$. Controlling for the effects of envy and ostracism, per my initial intention, did not change the results of the regression; the relationship between the types of benefits provided and jealousy remained insignificant, $B = -.08$, $p = .894$. The results suggest that types of benefits provided by the focal person and the rival to the partner (i.e., same vs. different benefits) do not affect the levels of jealousy, with or without controlling for the effects of ostracism and envy. Due to a strong imbalance between the cell sizes, however, the results should be interpreted with great caution. To attempt to at least partially overcome the bias resulting from the imbalance in cell sizes, a Mann-Whitney U Test was conducted. Consistent with the results of linear regression, the Mann-Whitney U Test revealed that there were no significant differences in terms of levels of jealousy between the two types of triads (i.e., "same benefits" and "different benefits"), $p = .987$.

In sum, when using either of the two methods for dichotomizing the composite value for each of the benefits types, the results suggested that the types of benefits provided by the focal person and the rival to the partner, did not affect the levels of jealousy. Both methods yielded imbalanced cells; as such, the results are likely not

reliable.

Testing Hypothesis 1b

To test Hypothesis 1b, stating that same-sex rivalry in a jealousy triad (i.e., triads in which the focal person and the rival are either both males or both females) will evoke stronger jealousy than cross-sex rivalry, I coded 83 triads with same-sex rivalry as "1" (M = 4.21, SD = 1.93) and 19 triads with cross-sex rivalry as "0" (M = 4.46, SD = 1.91). Without controlling for the effects of envy and ostracism, the results of linear regression, where the type of rivalry was included as the independent variable and jealousy composite was included as the dependent variable did not support Hypothesis 1b, $F(1, 100) = .27$, $B = -.25$, $p = .606$. After controlling for envy and ostracism, the relationship between the rivalry type and jealousy remained nonsignificant, $B = .08$, $p = .819$. As such the results suggest that the type of rivalry (i.e., cross-sex vs. same-sex) does not affect the levels of jealousy, regardless of whether or not envy and ostracism were included as control variables. Once again, the results should be interpreted with caution as there are large differences in sizes between the two cells.

Testing Hypothesis 2a

Hypothesis 2a stated that when the benefits provided by the focal person to the partner are qualitatively different from those provided by the rival to the partner, in situations when the rival provides the partner with instrumental benefits (vs. expressive and/or sex-based) jealousy will be stronger. The results obtained with the "middle-point-on-the-scale split" method yielded overall three triads: one triad in which the rival provided instrumental benefits to the partner while the focal person provided the partner

with expressive and/or sex-based benefits (coded as "1"), and two triads in which the rival provided the partner with expressive and/or sex-based benefits while the focal person provided the partner with instrumental benefits (coded as "0"). The results obtained with the "median split" method yielded overall five triads: one triad in which the rival provided instrumental benefits to the partner while the focal person provided the partner with expressive and/or sex-based benefits (coded as "1"), and four triads in which the rival provided the partner with expressive and/or sex-based benefits while the focal person provided the partner with instrumental benefits (coded as "0"). Because it is not possible to conduct a linear regression with such a small-sized sample, I did not test Hypothesis 2a.

One potential reason for ending up with low sample size is that, in general, a focal person may simply not feel jealous when the rival provides the partner with different benefits than he or she does. As such, when participants were asked whether they had felt jealous of someone at work – despite *actually* being in a situation where another person provided different benefits to their partner at work – they responded negatively to that question. The survey was designed such that the negative response directed them to demographic questions, bypassing jealousy-related questions. As such, participants may have selected themselves out of the analysis.

Testing Hypothesis 2b

To test Hypothesis 2b, stating that in triads with cross-sex rivalry, individuals with male rivals will experience greater jealousy compared to individuals with female rivals, I coded 14 triads with male rivals as "1" ($M = 4.99$, $SD = 1.82$) and five triads with female rivals as "0" ($M = 2.98$, $SD = 1.38$). The results of linear regression, where the

type of rivalry was included as the independent variable and jealousy composite was included as the dependent variable, supported Hypothesis 2b, $F(1, 17) = 4.96$, $B = 2.01$, $p = .040$. After controlling for the effects of ostracism and envy, the relationship between the triad type and jealousy levels became nonsignificant, $B = .96$, $p = .140$. The results may suggest that in triads with cross-sex rivalry, male rivals evoke greater jealousy than female rivals. To attempt to at least partially overcome the bias resulting from low cell sizes, a Mann-Whitney U Test was conducted. Consistent with the results of linear regression, the Mann-Whitney U Test revealed that in triads with cross-sex rivalry, male rivals elicit greater jealousy than female rivals (i.e., "same benefits" vs. "different benefits"), $p = .046$.

Testing Hypothesis 3

Hypothesis 3 stated that a focal person will experience more jealousy in situations when he/she and the rival provide *partially* different benefits to the partner than in situations when he/she and the rival provide qualitatively the same or qualitatively different kinds of benefits to the partner. Using the "middle-point-on-the-scale split" method, I coded 39 triads in which the focal and the rival provide *partially* different benefits to the partner as "1" ($M = 5.00$, $SD = 2.04$) and 50 triads in which the focal person and the rival provide the same or different kinds of benefits to the partner as "0" ($M = 3.71$, $SD = 1.58$). The results of linear regression where the type of triad was included as the independent variable and jealousy composite was included as the dependent variable supported Hypothesis 3, $F(1, 87) = 11.12$, $B = 1.28$, $p = .001$. After controlling for the effects of ostracism and envy, the effect of the triad type on level of jealousy remained significant, $B = .63$, $p = .036$. As such, Hypothesis 3 was fully

supported, suggesting that when focal person and rival provide the partner with partially different benefits, levels of jealousy are the highest.

Using the "median split" method, I coded 32 triads in which the focal and the rival provide *partially* different benefits to the partner as "1" (M = 5.13, SD = 2.21) and 50 triads in which the focal person and the rival provide the same or different kinds of benefits to the partner as "0" (M = 4:30, SD = 1.57). The results of linear regression where the type of triad was included as the independent variable and jealousy composite was included as the dependent variable marginally supported Hypothesis 3, $F(1, 74) = 3.64$, $B = .83$, $p = .060$. After controlling for the effects of ostracism and envy, the effect of the triad type on level of jealousy became nonsignificant, $B = .44$, $p = .185$. As such, coding the triads using the "median split" removed the significance of the effect of triad type on jealousy.

Testing Hypothesis 4a

Hypothesis 4a stated that females will have a greater tendency, compared to males, to respond to jealousy by attempting to better their relationship with their partner (e.g., through helping them at work), the tendency especially pronounced when they are in a cross-sex relationship compared to a same-sex relationship. I followed the procedures recommended by Preacher and Hayes (2008) to test the hypothesis. For the analysis, I used the SPSS macro designed by Preacher and Hayes (2009) for analyzing mediation: all bootstrap analyses are based on 5,000 bootstrap samples.

First, I tested the un-moderated (i.e., simple) mediation model, where the gender of the participant was included as the independent variable (males were coded as "1," females were coded as "0"), jealousy composite was included as the mediator, and a

measure of helpfulness toward the partner was included as the dependent variable. The relationship between the gender of the participant and jealousy was significant, B = -.93, SE = .41, p = .025, while the relationship between jealousy and helpfulness was not, B = .01, SE = .06, p = .917. Furthermore, both the direct effect, B = -.01, SE = .23, p = .972, and the indirect effect, B = -.01, SE = .07, 95% CI [-.136, .132] between gender and helpfulness were nonsignificant. After controlling for the effects of ostracism and envy, the significance of the mediation model did not change. Specifically, both the direct effect, B = .07, SE = .22, p = .765, and the indirect effect, B = .13, SE = .11, 95% CI [-.017, .451] between gender and helpfulness were nonsignificant. The results suggest that following experience of jealousy, females are not more likely than males to be helpful toward their partners.

Next, I tested the moderated mediation model, where I have included the variable indicating whether the relationship was cross-sex (coded as "1") or same-sex (coded as "0") as the moderator of the simple mediation described above. First, I examined three model paths to jealousy: 1) gender coefficient was marginally significant, B = -1.04, SE = .53, p = .054, 2) the variable indicating whether the relationship was cross-sex or same-sex was significant, B = .97, SE = .47, p = .041, and 3) the interaction term between these two variables was not significant, B = -.08, SE = .82, p = .922. These results suggest that, while females were more jealous than males, both males and females experienced greater jealousy in cross-sex relationships than same-sex relationships. Next, I examined the path between jealousy and helpfulness toward the partner, finding it to be non-significant, B = .02, SE = .06, p = .673. The direct effect of gender on helpfulness toward the partner was not significant, regardless of whether participants were in a cross-sex, B = .22, SE = .36,

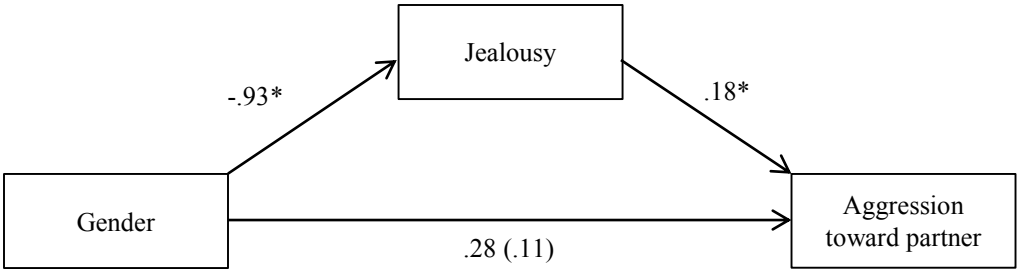
p = .534, or same-sex relationship, B = -.07, SE = .30, p = .821. Similarly, the indirect effect between gender and the degree of helpfulness toward the partner was not significant for same-sex relationships, B = -.03, SE = .08, 95%CI [-.207, .117] or for cross-sex relationships, B = -.02, SE = .09, 95%CI [-.273, .120], as 95% confidence intervals included zero. The results suggest that females are no more helpful toward their partner than males, regardless of whether they are in cross-sex or same-sex relationship. Including control variables of envy and ostracism did not change mediation paths. The direct effects of gender on helpfulness were nonsignificant, regardless of whether participants were in a cross-sex relationship, B = .30, SE = .34, p = .378, or same-sex relationship, B = -.03, SE = .30, p = .932. The indirect effects of gender on helpfulness when participants were in a cross-sex relationship, B = .13, SE = .15, 95%CI [-.064, .574], or same-sex relationship, B = .12, SE = .14, 95%CI [-.062, .517], were also non-significant. As such, Hypothesis 4a was not supported.

Testing Hypothesis 4b with Aggression Toward the Partner
as the Dependent Variable

Hypothesis 4b stated that males will have a greater tendency, compared to females, to respond to jealousy by engaging in aggressive behaviors toward their partner, the tendency especially pronounced when they are in a cross-sex relationship compared to a same-sex relationship. I followed the procedures recommended by Preacher and Hayes (2008) to test the hypothesis. For the analysis, I used the SPSS macro designed by Preacher and Hayes (2009) for analyzing mediation: all bootstrap analyses are based on 5,000 bootstrap samples.

First, I tested the un-moderated (i.e., simple) mediation model, where the gender

of the participant was included as the independent variable (males were coded as "1," females were coded as "0"), jealousy composite was included as the mediator, and a measure of aggression toward the partner was included as the dependent variable. The relationship between the gender of the participant and jealousy was significant, B = -.93, SE = .41, p = .025, as was the relationship between jealousy and aggression, B = .18, SE = .04, p = .000. Furthermore, both the direct effect, B = .28, SE = .16, p = .091, and the indirect effect, B = -.17, SE = .09, 95% CI [-.383, -.028] between gender and the degree of aggression indicated that females, compared to males, were more likely to respond to jealousy with aggression toward the partner (Figure 7). After controlling for the effects of ostracism and envy, the indirect effect of gender on aggression toward the partner remained significant, B = -.16, SE = .12, 95%CI [-.476, -.009], the direct effect became nonsignificant, B = .2282, SE = .17, p = .172. Next, I tested the moderated mediation model, where I have included the variable indicating whether the relationship was cross-sex (coded as "1") or same-sex (coded as "0") as the moderator of the simple mediation described above. First, I examined three paths to jealousy: 1) gender appeared to have a significant effect, B = -1.04, SE = .53, p = .054, 2) the variable indicating whether the relationship was cross-sex or same-sex and jealousy was also significant, B = .97, SE =.47, p = .041, and 3) the interaction term between the two variables was not significant, B = -.08, SE = .82, p = .929. The results suggest that while females experience more jealousy than males, both males and females experience more jealousy in cross-sex than in same-sex relationships. Then, I examined the path between jealousy and the degree of aggression toward the partner, finding it to be significant, B = .20, SE = .04, p = .000. The



Note. N = 102. Gender is coded female = 0, male = 1. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model. *$p < .05$.

Figure 7. The Indirect Effect of Gender on Aggression Toward the Partner (Study 3)

direct effect of gender on aggression toward the partner was marginally significant, when participants were in a same-sex relationship, $B = .41$, $SE = .22$, $p = .062$, but was not significant when they were in cross-sex relationship, $B = .22$, $SE = .25$, $p = .381$. The indirect effect between gender and the degree of aggression toward the partner was significant for same-sex relationships, $B = -.20$, $SE = .11$, 95%CI [-.455, -.028], but not significant for cross-sex relationships, $B = -.22$, $SE = .15$, 95%CI [-.575, .011]. Although these results suggest that females are more aggressive in same-sex relationships, these results should be interpreted with caution, however. The fact that the interaction term was nonsignificant, together with the fact that the indirect effect coefficients for cross- and same-sex relationships were very similar, suggests that the moderated mediation model is not strongly supported. In other words, although jealousy does mediate the relationship between gender and aggression toward the partner, the type of relationships people are in (i.e., cross- or same-sex) does not affect the relationship between gender and aggression toward the partner. After controlling for the effect of ostracism and envy, the model paths remained largely unchanged. Specifically, the direct effects of gender on aggression toward the partner were nonsignificant, regardless of whether participants were in a

cross-sex relationship, *B* = .19, *SE* = .25, *p* = .449, or same-sex relationship, *B* = .34, *SE* = .22, *p* = .125. The indirect effect of gender on aggression toward the partner was nonsignificant when participants were in a cross-sex relationship, *B* = -.21, *SE* = .18, 95% CI [-.727 .001], but significant when they were in a same-sex relationship, *B* = -.20, *SE* = .13, 95% CI [-.577, -.020]. As such, Hypothesis 4b is not supported.

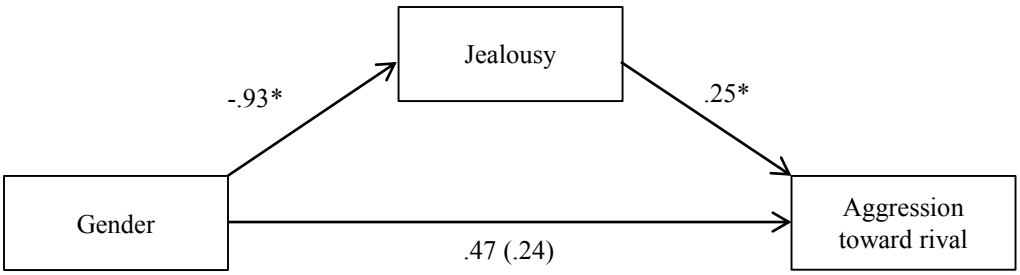
Testing Hypothesis 4b with Aggression Toward The Rival
as the Dependent Variable

Hypothesis 4b stated that males will have a greater tendency, compared to females, to respond to jealousy by engaging in aggressive behaviors toward their rival, the tendency especially pronounced when they are in a cross-sex relationship compared to a same-sex relationship. I followed the procedures recommended by Preacher and Hayes (2008) to test the hypothesis. For the analysis, I used the SPSS macro designed by Preacher and Hayes (2009) for analyzing mediation: all bootstrap analyses are based on 5,000 bootstrap samples.

First, I tested the un-moderated (i.e., simple) mediation model, where the gender of the participant was included as the independent variable (males were coded as "1," females were coded as "0"), jealousy composite was included as the mediator, and a measure of aggression toward the rival was included as the dependent variable. The relationship between the gender of the participant and jealousy was significant, *B* = -.93, *SE* = .41, *p* = .025, as was the relationship between jealousy and aggression, *B* = .25, *SE* = .05, *p* = .000. Furthermore, both the direct effect, *B* = .47, *SE* = .22, *p* = .033, and the indirect effect, *B* = -.24 *SE* = .11, 95%CI [-.498, -.062] were significant. The results suggest that females, compared to males, were more likely to respond to jealousy with

aggression toward the rival (Figure 8). After controlling for the effects of ostracism and envy, the indirect effect of gender on aggression toward the partner remained significant, B = -.16, SE = .11, 95% CI [-.444, -.014], while the direct effect became nonsignificant, B = .33, SE = .21, p = .109.

Next, I tested the moderated mediation model, where I have included the variable indicating whether the relationship was cross-sex (coded as "1") or same-sex (coded as "0") as the moderator of the simple mediation described above. First, I examined three paths to jealousy: 1) gender appeared to have a significant effect, B = -1.04, SE = .53, p = .054, 2) the variable indicating whether the relationship was cross-sex or same-sex and jealousy was also significant, B = .97, SE = .47, p = .041, however, 3) the interaction term between the two variables was not significant, B = -.08, SE = .82, p = .929. The results suggest that, while females experience more jealousy than males, both males and females Experience more jealousy in cross-sex relationships. Then, I examined the path between jealousy and the degree of aggression toward the partner, finding it to be significant, B = .27, SE = .05, p = .000. The direct effect of gender on aggression toward the partner was significant, when participants were in a same-sex relationship, B = .78, SE = .29, p = .008, but was not significant when they were in cross-sex relationship, B = .15, SE = .34, p = .654. The indirect effect between gender and the degree of helpfulness toward the partner was significant for same-sex relationships, B = -.28, SE = .14, 95%CI [-.614, -.048], but not significant for cross-sex relationships, B = -.30, SE = .17, 95%CI [-.686, .001]. Again, these results should be interpreted with caution, however. The fact that the interaction term was nonsignificant, together with the fact that the indirect effect coefficients for cross- and same-sex relationships were very similar, suggests that the



Note. N = 102. Gender is coded female = 0, male = 1. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model. *$p < .05$.

Figure 8. The Indirect Effect of Gender on Aggression Toward the Rival (Study 3)

moderated mediation model is not strongly supported. In other words, although jealousy does mediate the relationship between gender and aggression toward the rival, whether people are in cross- or same-sex relationship makes no difference. After controlling for the effect of ostracism and envy, the direct effect of gender on aggression toward the rival remained significant for same-sex relationships, $B = .56$, $SE = .27$, $p = .042$, and remained nonsignificant for cross-sex relationship, $B = .09$, $SE = .31$, $p = .787$. The indirect effect of gender on helpfulness when participants were in a cross-sex relationship remained significant, $B = -.22$, $SE = .16$, 95%CI [-.637 .001], and when participants were in a same-sex relationship, the coefficient remained nonsignificant, $B = -.20$, $SE = .13$, 95%CI [-.565, -.023]. As such, Hypothesis 4b is not supported.

Taken together, the results of Study 3 supported some hypotheses (i.e., Hypotheses 2b and 3) and did not support others (Hypotheses 1a, 1b, 4a, and 4b). Hypothesis 1a stated that individuals will experience more jealousy when they and their respective rivals provide the partner with qualitatively the same types of benefits compared to qualitatively different types of benefits). The results were not supported, with or without including ostracism and envy as control variables. Hypothesis 1b stated

that same-sex rivalry will evoke more jealousy than cross-sex rivalry. This hypothesis was also not supported, with or without including ostracism and envy as control variables. Hypothesis 2a stated that when the focal person and the rival provide different benefits to the partner, individuals will experience more jealousy when the rival provides instrumental benefits compared to expressive and/or sex-based). This hypothesis could not be tested at all, as one of the two cells included only one triad. One potential reason for not finding support for (and not being able to test one of) these hypotheses was that the cells were greatly imbalanced.

Hypothesis 2b stated that in triads with cross-sex rivalry, triads with male rivals will evoke more jealousy than triads with female rivals. The results of Study 3 support this hypothesis, but only when ostracism and envy were not included as control variables. The small size of cells once again raises a cautionary flag when interpreting these results. Hypothesis 3 stated that a focal person will experience more jealousy in situations when he/she and the rival provide *partially* different benefits to the partner than in situations when he/she and the rival provide qualitatively the same or qualitatively different kinds of benefits to the partner. Tests of this hypothesis produced mixed results: it was fully supported (with or without including envy and ostracism as control variables) using the results of the "middle-point-on-the-scale split" method but it was not fully supported using the results of the "median split" method.

Neither of the hypotheses pertaining to the outcomes of jealousy (i.e., Hypotheses 4a and 4b) was supported. Specifically, Hypothesis 4a – stating that females, compared to males, will respond to jealousy with more helpfulness toward their partner, the tendency especially pronounced in cross-sex relationships – did not yield any significant results.

These results suggest that the gender of the focal person does not affect levels of helpfulness toward the partner, regardless of whether the focal person was in a cross-sex or same-sex relationship. Hypothesis 4b, stating that males, compared to females, will respond to jealousy with more aggression toward their partners and their rivals was also not supported. Indeed, the results suggested that females, more than males, are likely to respond to jealousy with aggression toward both their partner and their rival. Being in a cross-sex or a same-sex relationship did not influence the extent to which women, more than men, were likely to respond to jealousy with aggression.

CHAPTER 3

DISCUSSION

As the literature review in Chapter 1 demonstrates, the research on workplace jealousy, up to this point, has been relatively sparse, despite the frequency of its occurrence in organizations. Indeed, the results of Study 3 show that 27.4% of participants in the sample have experienced jealousy in their workplace in the past year, close to the estimate of 29% by Miner (1990). As no theory on organizational jealousy has yet been developed, this dissertation attempted to address this gap by theorizing on the potential causes and consequences of this emotion and testing the hypothesized relationships in two experimental studies and one organizational survey. Although not all hypotheses were supported, overall the results (especially of the field study) have high descriptive value, which will be of considerable use for future research on the topic. The detailed discussion of the results found is organized in four sections below.

Benefits Provided by the Focal Person and the Rival to the Partner

Hypotheses pertaining to the benefits the focal person and the rival provide to the partner were tested in Study 3 – the field study. Two of three of these hypotheses (i.e., Hypothesis 1a and 2a), unfortunately, could not be accurately tested due to imbalanced and small cell sizes. Specifically, to test Hypothesis 1a – stating that when the focal

person perceives that he/she and the rival provide qualitatively the same benefits, compared to qualitatively different benefits, to the partner, jealousy will be more intense – I required an approximately equal number of participants in the "same benefits" triads and "different benefits" triads. Failing to meet my requirements, I ended up with 48 "same benefits" triads and 3 "different benefits" triads. While it is possible that such a misbalance in cell sizes was a result of the sampling error, a more logical explanation likely has to do with individuals simply not feeling jealous when they believe that another person provides their partner with different benefits. As such, participants, who *were* in the situation where another person provided their partner with different benefits, may have selected themselves out of the analysis by selecting "no" as their response to the question of whether they had ever felt jealous in the workplace and, bypassing the jealousy questions, directing themselves to the end of the survey. If that explanation is correct, then the results *might* indirectly support Hypothesis 1a stating that individuals in "same-benefits" triads experience more jealousy than individuals in "different-benefits triads." In particular, if in response to the question of whether they had ever felt jealous in the workplace individuals, who provided their partners with different types of benefits than their rivals, selected "no" more frequently than individuals, who provided their partners with the same types of benefits as their rival, it would indirectly suggest that I was correct in my theory leading up to Hypothesis 1a. Due to a small sample (i.e., one of the cells contained a single triad), Hypothesis 2a could also not be tested.

The benefits-related hypothesis that *was* supported (but only when the "middle-point-of-the-scale" dichotomization method was used) is Hypothesis 3, stating that when the focal person and the rival provide the partner with partially different types of benefits,

compared to completely the same or completely different types of benefits, jealousy will be higher. It appears then that these results are consistent with my theorizing in Chapter 1. Specifically, in Chapter 1 I theorized that when the focal person provides his/her partner with benefits that are partially different from the ones with which the rival provides the partner, "substitutability" effect (i.e., jealousy is greater when the focal person and the rival provide the partner with the same compared to different benefits) and "benefit desirability" effect (i.e., jealousy is greater when the rival provides more desirable benefits than the focal person) might be compounded. I theorized that when the "substitutability" and the "benefit-desirability" effects make predictions in the same direction (e.g., focal person provides expressive benefits, while the rival provides expressive and instrumental benefits), jealousy – understandably – will greater than when either of the effects exert influence on jealousy by itself. However, when the two effects make predictions in the opposite direction (e.g., focal person provides expressive and instrumental benefits, while the rival provides expressive benefits), I theorized that participants will likely be confused as to how they should feel, a state which has been shown to deepen any existent emotions (Bar-Anan et al., 2009). As such, I proposed that regardless of whether the "substitutability" effect and the "benefit desirability" effect make predictions in the same directions or not, jealousy in triads wherein the focal person and the rival provide the partner with partially different benefits will be greater than in triads where the focal person and the rival provide the partner with same or different benefits. Although the results supported Hypothesis 3, Study 3 did not explore the theorized underlying mechanisms, a gap that would be worth addressing in future research.

Provided that two of the benefits-related hypotheses could not be tested in this dissertation, conclusions cannot be drawn about the effect of the types of benefits provided by the focal person and the rival to the partner on levels of jealousy. However, there are several interesting unhypothesized patterns that emerged in the data, which may be of importance for future research. For example, despite experiencing medium levels of jealousy (as evidenced by a mean of 4.25 on a 9-point scale) and, thus, perceiving a rival to be threatening, an average participant believed that *he/she,* compared to their rival, provided more instrumental, $t(101) = 3.78$, $p = .000$, and more expressive benefits, $t(101) = 7.62$, $p = .000$, to their partner. By contrast, there was no significant difference in perception of the magnitude of sex-based benefits provided by the focal person and the rival to the partner, $t(101) = -.43$, $p = .669$. Because prior research (e.g., DeSteno et al., 2006) suggests that jealousy threatens implicit self-esteem, this self-serving bias exhibited by the participants (as they believe that they provide more benefits to the partner than their rival) may be indicative of the fact that individuals boost their self-esteem by persuading themselves that they are better than their rival in providing at least some of the benefits to their partner.

Another interesting finding from the data is that out of the three types of benefits, the two that were significantly predictive of the levels of jealousy are instrumental and sex-based benefits (by not expressive benefits) provided by the focal person and the rival to the partner. This finding contrasts the results of Sapadin's (1988) survey that showed that expressive benefits provided within workplace relationships are prevalent and important among professional men and women. Future research should thus examine the potential reasons for why expressive benefits, though seemingly important, play a little

role in evocation of jealousy in the workplace. For example, provided that jealousy is elicited when a close, coveted bond with another person is usurped by the interference of the rival, the absence of the correlation between jealousy and expressive benefits may be suggestive of the fact that employees value their expressive relationships at work to a lesser extent than their instrumental relationships, as was earlier argued by Lin (2002). Another reason for nonsignificant correlation between expressive benefits and jealousy may have to do with fact that people at work prefer to receive expressive benefits, such as social support, within larger groups rather than in one-on-one relationship. As such, the presence of the rival may not be perceived as threatening for individuals in expressive relationships.

Jealousy as a Function of Gender Composition of the Triad

Even though small sample and imbalanced cells did not permit testing of Hypotheses 1a and 2a, I *did* test Hypotheses 1b and 2b, which, with the exception of being framed in terms of gender (rather than benefits), are identical to Hypotheses 1a and 1b. In other words, consistent with previous research (e.g., Acker, 1992; Kanter, 1977), I hypothesized that benefits provided within organizational relationships vary by gender, such that men are stereotyped to provide instrumental benefits, while women are stereotyped to provide expressive benefits. Tying in the substitutability effect with research suggesting that benefits provided within workplace relationships are gendered, I hypothesized that 1) same-sex rivalry will evoke more jealousy than cross-sex rivalry (Hypothesis 1b) and 2) in triads with cross-sex rivalry, male rivals will evoke more jealousy than female rivals (Hypothesis 2b).

Study 3 data demonstrates that, indeed, male participants believed that they

provided their partners with more instrumental than expressive benefits, while female participants believed that they provided their partners with more expressive than instrumental benefits, F (1, 100) = 4.15, p = .044. Similarly, participants believed that male rivals provided their partners more with instrumental than expressive benefits, while female rivals provided their partners more with expressive than instrumental benefits, F (1, 100) = 7.98, p = .006. As such, testing and finding support for Hypotheses 2a (stating that same-sex rivalry will elicit greater jealousy than cross-sex rivalry) and 2b (stating that, in the context of cross-sex rivalry, male rivals will elicit more jealousy than female rivals) would indirectly lend support for Hypotheses 1a and 2a.

The three studies conducted yielded mixed support for gender-related hypotheses. Specifically, in Study 1 neither of the two hypotheses (i.e., 1b and 2b) was supported. Despite the use of the vignettes being a valid method for studying emotions (e.g., Robinson & Clore, 2001), it is possible that even with correcting for the focalism and the impact biases, the scenario used to study jealousy was problematic and participants' beliefs about how they would respond to rivals of different gender did not necessarily reflect reality (e.g., DeSteno et al., 2006; Wilson et al., 2000). Indeed, the results of Studies 2 (a controlled laboratory study) and 3 (an organizational field study) were largely supportive of Hypotheses 1b and 2b.

Specifically, although Hypothesis 1b was not supported in Study 3 (potentially due to a great imbalance between cell sizes), it was supported in Study 2. Consistent with my theorizing in Chapter 1 that the fear of being completely replaced by the rival of the same gender – who likely provides the same (rather than different) benefits to the partner as does the focal person – elicits strong feelings of jealousy (i.e., the "substitutability

effect"), I found that same-sex rivalry elicits greater jealousy than cross-sex rivalry. Hypothesis 2b was supported in both Studies 2 and 3, suggesting that, due to "benefit-desirability" effect in the context of cross-sex rivalry, male participants elicit more jealousy than female participants. These results are entirely consistent with the literature demonstrating that males in organizations enjoy greater status, respect, and standing (e.g., Ridgeway, 1991; Wagner & Berger, 1997, Watkins et al., 2006), thereby making male rivals more threatening.

In addition to reviewing the hypothesized gender-related effects on jealousy, it is also important to briefly discuss several results from Study 3 that were not directly hypothesized. For example, in Studies 2 and 3, I found that females experienced more jealousy than males (Study 1 did not reveal any differences in jealousy between male and female participants). Although previous reviews and meta-analyses on gender differences in jealousy (see Harris, 2003; Sagarin et al., 2012) does not point to the main effect of gender on jealousy, it does suggest that females experience more jealousy in response to emotional infidelity, while males experience more jealousy in response to sexual infidelity.

Comparing the associations between jealousy and benefits provided within workplace relationships between males and females suggests that jealousy in the workplace is evoked by different sets of circumstances than romantic jealousy. Specifically, rather than being a response primarily to sexual infidelity as is the case in romantic relationships (Harris, 20013; Sagarin et al., 2012), the intensity of workplace jealousy among males appears to be also a function of instrumental benefits, $r = .59$, $p = .001$ (in addition to sex-based benefits, $r = .65$, $p = .000$). Interestingly, jealousy in males

appears to be a function of the instrumental and the sex-based benefits that only *they* (and not the rival) provided to the partner. For females, on the other hand, rather than being a response primarily to emotional infidelity as is the case in romantic relationships (Harris, 20013; Sagarin et al., 2012), workplace jealousy instead appears to be a function of instrumental, $r = .35$, $p = .003$ and sex-based benefits, $r = .39$, $p = .001$, *they* provide to their partner, as well as instrumental, $r = .33$, $p = .005$, and sex-based benefits, $r = .33$, $p = .005$, *the rival* provides to their partner. These results suggest that both men and women likely treat their workplace relationships differently than their romantic relationships, not necessarily attached to the workplace, and call for theory explaining the extent of those differences with respect to jealousy evocation.

Equally as important as discussing the main effect of the focal person's gender on jealousy, is discussing the prevalence of jealousy in each type of jealousy triad. Most jealousy triads in Study 3 involved same-sex rivalry (81%). This finding is entirely consistent with research on gender differences in friendship patterns. Studies of children, adult women, and chimpanzees show that females form on-on-one same-sex peer relationships, while males are more likely to form interconnected group relationships (Benenseon, 1990; Gabriel & Gardner, 1999; Langergraber, Mitani, & Vigilan, 2009; Markovits, Benenson, & Dolenszky, 2001; Wrangham & Smuts, 1980). Given these friendship patterns, females have been shown to be particularly vigilant to any alliance that could displace their existing relationship (e.g., Benenson, Markovits, Thompson, & Wrangham, 2011). Indeed, in their study of children, Parker, Low, Walker, and Gamm (2005) demonstrated that females become more jealous than males when their same-sex friends form a new friendship.

Out of the "same-sex rivalry" triads, the most common one included an all-female triad (48%). The least common type of triad involved having a female rival in triads with cross-sex rivalry (5%). One possible reason for this latter finding is that because females occupy lower ranks and have less status in organizations (e.g., Kanter, 1977), female rivals may be least threatening. As such, men who have a female rival may likely not experience any feelings of jealousy.

Outcomes of Jealousy

Although neither of the hypotheses related to the outcomes of jealousy (i.e., Hypotheses 4a and 4b) was supported, two interesting findings emerged. First, although I predicted that males (more than females) will respond to jealousy with aggression toward their partner and the rival, a tendency especially pronounced in cross-sex than in same-sex relationships (Hypothesis 4b), I found precisely the opposite: females were more likely than males to respond to jealousy with aggression, especially in same-sex relationships (Studies 2 and 3).

In Chapter 1, I acknowledged the research showing that indirect forms of aggression are more common among females than males (e.g., Bjorkqvist et al., 1994; Murray-Close, Ostrov, Nelson, Crick, & Coccaro, 2010) but nevertheless maintained that females will likely respond to jealousy with attempts to restore the relationships with their partners. It appears that the results of Studies 2 and 3 are better explained with research on greater prevalence of indirect forms of aggression among females than males. Specifically, although females may prefer one-on-one relationships with another female to interconnected group relationships (e.g., Benenson et al., 1990), they may experience more difficulty in their one-on-one relationships when confronted with a threat, such as

when having to compete for their friend with a female rival (e.g., Parker et al., 2005). Indeed, recent research on "cat fighting" (e.g., Sheppard & Aquino, 2013) demonstrates that females may have more difficulty in their same-sex workplace relationships than individuals in cross-sex relationships, or men in same-sex relationships. Drawing on social identity theory (Tajfel, 1982), Sheppard and Aquino argued that a potential reason for strained same-sex relationships among women in organizations may involve women being a lower status group in organization, making it difficult to maintain positive group identities. As such, whereas having a positive social standing within organizations may make it easy for men to resolve conflicts within their same-sex relationships, women may respond to conflicts (for example involving another person usurping women's relationship with their partner) with aggression.

Hypothesis 4a, stating that females will respond to jealousy with directing helpfulness toward their partner, especially in their cross-sex relationships was also not supported. Whereas the results of Study 3 found demonstrate a significant effect of gender on helpfulness following the experience of jealousy, the results of Study 2 show that it is males who are more helpful toward their partner following the experience of jealousy. The mixed results obtained may have a logical explanation. In Study 2, I found a positive indirect effect of gender (males coded as "1", females coded as "0") on helpfulness toward the partner (with a scale of 1 – sabotaging, 2, 3 – helpful). These findings may *either* indicate that following the experience of jealousy males are more helpful than females (i.e., the interpretation I used in Chapter 2) *or* that women are more sabotaging (i.e., the interpretation consistent with other results I found that demonstrate that females are more aggressive than males). The nature of the helpfulness measure I

used does not allow me to ascertain which of the two interpretations is correct. As such, future studies should disentangle these results by using a different measure of helpfulness, which ranges from "not helpful at all" to "very helpful" (rather than from "sabotaging" to "helpful").

Finally, though not hypothesized, it is interesting to note that whereas in Study 2 I found that individuals, on average, were more aggressive toward the partner than the rival, $t(123) = 2.133$, $p = .035$, in Study 3 I found the reverse trend, $t(101) = -3.979$, $p = .000$. Although previous research does not distinguish between aggression toward the rival and the partner (e.g., Bryson, 1991), one possible explanation for this discrepancy has to do with who (i.e., the partner or the rival) was the impetus for the separation from the focal person. Provided that the manipulations in Study 2 involved the *partner* terminating the relationship with participants, leading to greater aggression toward the partner, it is possible that greater aggression toward the rival in naturalistic settings may be indicative of the *rival* being the impetus of termination of the relationship between the focal person and the partner.

Ostracism and Jealousy

This dissertation would not be complete without devoting at least a portion of the discussion to the complex interrelation between feelings of ostracism and jealousy. Initially intending to control for feelings of ostracism in Study 2, thereby ensuring that the manipulation evoked feelings of jealousy and not ostracism, I found that that the inclusion of ostracism as the control variable rendered all of my results as non-significant. Retrospectively, this is not surprising, as ostracism items (i.e., "I feel excluded" and "I feel ignored") loaded highly (factor loadings: .900 and .834,

respectively) on the same factor as most of the items comprising the jealousy measure, suggesting that the two constructs may indeed overlap. Such close association between the two constructs in Study 2 may have been a result of participants being objectively excluded and ignored when their partner left them for the rival. Of course, these results may be contextual and, thus, require further investigation in subsequent studies.

Whereas in Study 2 I was certain that participants were objectively excluded and ignored by their partner (due to the nature of manipulations), in Study 3 I had no such certainty. As such, I chose to run the analyses with and without controlling for the effects of ostracism. In general, I found that the inclusion of this variable as the control in the analyses largely did not affect the results, suggesting that in the real world, the actions of the rival and the partner may be more subtle than abruptly terminating the relationship with the focal person.

Theoretically, according to the review paper by Williams (2007), ostracism is defined as "ignoring and excluding individuals or groups by individuals or groups" (p. 427). This definition appears to be similar to a jealousy precursor, wherein the relationship between a focal person and a partner is threatened due to the interference of a rival, as a result of which the focal person may feel ignored and excluded. Not surprisingly, then, in his review Williams suggests that jealousy may be one of the responses by a person who is rejected by someone in favor of another individual. The only paper to my knowledge that empirically examined the relationship between ostracism and jealousy showed precisely that. Using the cyberball ostracism paradigm, Harmon-Jones and colleagues (2009) established that being ostracized led participants to experience jealousy. It should be noted, however, that the authors did not report how they

measured jealousy; as such, it is difficult to assess the reliability of this relationship.

By contrast, DeSteno and colleagues (2006) assert that simply being excluded from a group is not enough to elicit jealousy. The authors argue that "jealous distress stems from a motivation to protect a relationship from being usurped" (p. 627). In other words, only when a person has an established and – importantly – valued relationship with another individual, will the act of exclusion by that other individual and the rival (interfering in the relationship between the person and that other individual) elicit feelings of jealousy in the first person. This line of reasoning points to the importance of exercising caution when manipulating or measuring either of the two emotions.

Limitations and Future Directions

As with any paper, this dissertation is not without limitations. I review those limitations for each study by following the recommendations of Aguinis and Edwards (2014).

The first limitation Aguinis and Edwards (2014) recommend discussing is why observed effects may not be as strong as they were predicted to be. In Study 1, I failed to find support for either Hypothesis 1 or Hypothesis 2. One possible reason that the effect sizes failed to reach sufficient levels of significance is that, despite following procedures recommended by Wilson and colleagues (2000) for reducing focalism and impact biases, participants were not able to accurately estimate how they would feel in the hypothetical situation with which they were presented. As such, the use of the hypothetical scenario methodology is a possible weakness in this line of research. Relatedly, the content of the scenario may also have contributed to the lower effect size. Specifically, participants were asked to imagine that their partner at work started excluding them from lunches

which he/she started spending with the rival. This piece of information may have suggested to participants that benefits that were exchanged in those lunch meetings were largely expressive, which may have made gender-composition manipulations (e.g., male rivals were possibly no longer associated with the provision of instrumental benefits). Future studies, may thus examine whether the effects of gender composition may be more apparent if the scenario is modified to reflect other types of benefits.

Another issue Aguinis and Edwards (2014) recommend addressing in the limitation section is how the studies fare with respect to external validity. Out of the three studies conducted as part of this dissertation, Study 2 – conducted within laboratory settings – suffers from low external validity the most. Specifically, the study relied upon an undergraduate college sample, consisting of individuals with weak self-definition, uncrystalized attitudes, easily influenced by group norms, and unusual egocentricity (Sears, 1986), all of which may contribute to greater fluctuation and variability in emotional experience than would be expected of the older, more mature sample. As such, the results found in this study may not necessarily generalize to other populations.

Study 2 is also affected by another issue that Aguinis and Edwards recommend discussing, which has to do with the manipulations and measurement of the variables used. In Study 2, the two variables that raised the highest concern were helpfulness toward the partner and ostracism. The measure of helpfulness borrowed from Rudman and Fairchild (2004) this study did not allow me to conclude whether it is males who respond to jealousy with helpfulness or females who respond to jealousy with more sabotage (i.e., aggression). As such, future studies should use a different measure of helpfulness, one that does not range on the scale of helpful to sabotaging.

It is also unclear whether the manipulation intended to induce jealousy in participants, indeed, induced jealousy or whether it induced ostracism. In other words, it was not clear whether, for example, high levels of jealousy in same-sex rivalry triads resulted from participants feeling jealous or ostracized. Provided that the Study 2 mean for feelings of ostracism was greater than the mean for feelings of jealousy, in each and across all cells, I considered the possibility that my theoretical argument dealt more with ostracism than jealousy. However, substituting the ostracism composite in place of jealousy composite in the analyses yielded significant results in the predicted direction for only one of the four hypotheses tested in Study 2 (i.e., Hypothesis 2b), showing that females with male rivals experience more jealousy than males with female rivals. It appears then that the manipulation and the theoretical story was more about jealousy than ostracism. Nonetheless, these "less-than-clean" results leave the possibility that feelings of ostracism may comprise a part of jealousy experience. As such, future research should exercise great caution in designing manipulations for these two emotions and more thoroughly investigate whether the two emotions are always experienced together or whether they are distinct, though, very closely related.

Study 3 had its own set of limitations worth addressing. First, although Study 3 – the field study – offset at least partially the low external validity limitation by drawing upon a real workplace sample, this study suffered from the opposite problem – low internal validity. Provided the correlational nature of the data, it is not possible to establish the directionality in the relationship between types of benefits provided and jealosuy. Aguinis and Edwards (2014) also suggest that another type of problem often present in the field research is the use of single-item measures. Although all of my

measures included more than one item, in an effort to minimize the drop-out rate, I used the short versions of many of my measures, possibly reducing their reliability.

Another key problem faced by Study 3 is a low sample size, which did not permit the testing of two of the hypotheses related to benefits provided by the focal person and the rival to the partner. As such, it is not clear whether individuals in "different benefits" and "cross-rivalry" triads simply do not experience jealousy, or whether the imbalance of the cells was the result of poor sampling. In either case, to adequately test the "substitutability" and the "benefit-desirability" effects, it is important to test hypotheses pertaining to the types of benefits provided by the focal person and the rival to the partner by manipulating them in a laboratory setting.

Finally, much like it may have been unfeasible for Study 1 participants to imagine feelings of jealousy in a hypothetical scenario, it is also possible that in Study 3 participants suffered from bias in recalling the intensity of their jealousy experience. Specifically, in their study assessing the accuracy in the recall of emotions, Thomas and Diener (1990) found that the accuracy in the recall of negative affect is compromised (though not as strongly as that of positive affect). This suggests that jealousy means found in Study 3 in reality may be different. This shortcoming in the field research on jealousy could potentially be overcome by relying on experience sampling methodology, where participants could be asked daily about their feelings of jealousy with respect to their relationship with their partner.

In addition to addressing the limitations of this dissertation, several opportunities for future research directions were uncovered by the correlation table in Study 3 (Table 7). For example, it appears that jealousy is strongly positively correlated with

instrumental and sex-based benefits (provided by both the focal person and the rival) but not significantly correlated with expressive benefits (provided by both the focal person and the rival). Future research might thus investigate potential reasons for why instrumental and sex-based benefits have a greater effect on workplace jealousy compared to expressive benefits. Relatedly, it might be also important to investigate the reasons for why the provision of sex-based and instrumental benefits is correlated with aggression toward the rival and the partner, while the provision of expressive benefits is correlated with helpfulness toward the partner.

Additionally, due to the limited scope of my dissertation I was not able to test other interesting ideas. For example, whereas in this dissertation I only focused on the *focal person's perceptions* concerning the amount and the types of benefits provided within the jealousy triads, future research should investigate the rival's and the partner's perceptions of these benefits. It would also be worthwhile to investigate whether the finding that women respond to jealousy with aggression, especially in same-sex relationships, translates to other settings. For example, do women respond with aggression to their female partners in their *personal relationships* following the experience of jealousy or do they attempt to manage impressions and better their relationships, as I proposed in Hypothesis 4b? Relatedly, although in the current dissertation I focused on only two of the potential manifestations of jealousy (i.e., aggression and helpfulness), future studies should investigate whether gender differences exist in other manifestations of jealousy, such as social support-seeking, monitoring partner, and others (see Bryson, 1991).

Finally, and perhaps most importantly, it would be worthwhile to explore other

social categories, beyond gender, as they relate to jealousy. Specifically, gender represents only one of many other social categories, including newhires vs. oldtimers, minority vs. majority, managers vs. subordinates. Focusing on how jealousy and its outcomes are influenced by the variance in the composition of triads with respect to each of the social categories will likely necessitate different theory and reveal different patterns in jealousy intensity. Additionally, whereas the hypotheses in this dissertation were tested in an organization characterized by low turnover, future researchers should explore whether patterns of jealousy change in organizations that are characterized by shifting work relationships, such as in the case of the mergers, acquisitions, and expansions.

CONCLUSION

A big takeaway from this dissertation is that jealousy is not an emotion exclusive to personal relationships, as has been shown previously. Indeed, I demonstrate that feelings of jealousy are very prevalent in organizations, and affect more than a quarter of employees. We know very little about jealousy in the workplace, either descriptively or inferentially. As such, this dissertation represents an initial step to unraveling complex effects gender exercises on feelings of jealousy in the workplace and potentially very harmful outcomes of this "green-eyed monster."

APPENDIX A

UNSCRAMBLING TASK

Instructions: Please rearrange the letters to form words. Please do **not** proceed to the next word until you solve the previous one.

KBRA (BARK)

ISAAL (ALIAS)

TUME (MUTE)

RALROC (CORRAL)

LXEF (FLEX)

WEPI (WIPE)

CDATLIE (DIALECT)

EOCRVL (CLOVER)

NAHOWY (ANYHOW)

MMCOTUE (COMMUTE)

AUTEELVA (EVALUATE)

TEGRRE (REGRET)

AAYNCVC (VACANCY)

SPAAETN (PEASANT)

NMIARCOA (MACARONI)

NEOFGIR (FOREIGN)

DAHNEOMS (HANDSOME)

EELIAZR (REALIZE)

ATCNAOVI (VACATION)

TIRJEUP (JUPITER)

UOANTASTR (ASTRONAUGHT)

RLMFAO (FORMAL)

EAHPNP (HAPPEN)

ONMESL (SOLEMN)

SFIRUOU (FURIOUS)

TANBSIA (ABSTAIN)

SMESRIP (IMPRESS)

CERKLFE (FRECKLE)

CEONAEDT (ANECDOTE)

WSIETHL (WHISTLE)

LUCCRIA (CRUCIAL)

OIPATLMD (DIPLOMAT)

KCRRCAE (CRACKER)

CCPAIIF (PACIFIC)

PEMIED (IMPEDE)

RNIGTA (RATING)

LTHNGSUI (SUNLIGHT)

LDDUEC (CUDDLE)

ADETNL (DENTAL)

RPLIEUAC (PECULIAR)

URFHLAM (HARMFUL)

APPENDIX B

BEHAVIORAL MEASURE OF HELFULNESS

Instructions: Your job is to select which CLUE you want the contestant to receive. You will pick ONE clue from 3 possible clues, for each of the Gibberish Questions. For example, a clue for A PITCHER RHYME CRAVES LIME (A stitch in time saves nine) might be "It involves sewing" OR “It involves being prompt" OR "It's not just funny, it's a stitch!" Any of these clues might help the contestant come up with the right answer. Your job is to pick which clue will be provided.

1. Nonsensical question: Streak-plow your sore never scold your niece

Correct answer: Speak now or forever hold your peace

Possible clues: 1) This is not the time to be shy (2[11])

2) You often hear this during a wedding (3)

3) You might hear this in church (1)

2. Nonsensical question: A burly word frets la firm

Correct answer: The early bird gets the worm

Possible clues: 1) If you wake up, there's a disgusting surprise for you (1)

2) Don't get caught napping (2)

3) The first to wake up gets the prize (3)

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[11] Numbers in brackets indicate the level of helpfulness of the clue, with (3) being the most helpful

3. Nonsensical question: Surly Hugh said, 'Curly new thighs

Correct answer: Early to bed, early to rise

Possible clues: 1) It's a rule for staying fit (1)

2) It makes a man healthy, wealthy, and wise (2)

3) It's a rule for staying rich and smart (3)

4. Nonsensical question: Make Miss Slob Hand glove grit

Correct answer: Take this job and shove it

Possible clues: 1) You might say this upon quitting your job (3)

2) It's a song and a movie (1)

3) It's about one's occupation (2)

5. Nonsensical question: Laverne shove the dead guy

Correct answer: Return of the Jedi

Possible clues: 1) It's the third in a series (1)

2) It's an outer space movie (2)

3) Try using the "force" to get the answer (3)

6. Nonsensical question: Paul's swell Pat sends smell

Correct answer: All's well that ends well

Possible clues: 1) It's all OK if it ends OK (3)

2) It's a well-known cliché (2)

3) It's a Shakespeare play (1)

7. Nonsensical question: Rare’s the clucker porn Bevr, skin it

Correct answer: There's a sucker born every minute

Possible clues: 1) A man who ran a circus said it (2)

2) It's not about lollipops (1)

3) It's about how often fools are born (3)

8. Nonsensical question: Wife is right the fox love taco bits

Correct answer: Life is like a box of chocolates

Possible clues: 1) It's a stupid saying from a Tom Hanks film. (3)

2) It's a saying about taking your chances. (2)

3) You never know what you are going to get. (1)

9. Nonsensical question: Kit's sleaziest bed's undone

Correct answer: It's easier said than done

Possible clues: 1) Can you walk the talk? (1)

2) It's a saying about taking your chances. (3)

3) It's easy - just do it! (2)

10. Nonsensical question: Spit paint rover kill da bat shady wings

Correct answer: It ain't over till the fat lady sings

Possible clues: 1) It's actually about opera, but you hear it during sports (3)

2) It's often quoted at sporting events (1)

3) It reminds athletes not to give up too soon. (2)

11. Nonsensical question: Poor sores canned heaven fears you go

Correct answer: Four score and seven years ago

Possible clues: 1) It's about the passage of time (1)

2) It's a famous beginning (2)

3) It's the start of a speech by Abraham Lincoln (3)

12. Nonsensical question: A witch in lime craves brine

Correct answer: A stitch in time saves nine

Possible clues: 1) It’s not just funny, it's a stitch (2)

2) It’s about sewing (1)

3) It's about being prompt (3)

APPENDIX C

EXPERIMENTER'S AND CONFEDERATES' SCRIPTS

Set-up: A room with three computers, two round tables, 6 chairs, and entrances to 2 other rooms.

(*When the actual participant enters the room*) – Hi, welcome! Please have a seat.

(*One minute later, a partner-confederate enters*) – Hi, welcome! Please sit at one of the tables. (*Confederate proceeds to sit at the same table as the actual participant and introduces himself/herself. The confederate and participants spend several minutes getting to know each other; confederate's goal is to establish a rapport with the actual participant.*)

(*Experimenter approaches the table*). Thank you for agreeing to participate in the study. Let me explain you what you will be doing today. This study actually contains three unrelated studies. The first two studies involve completing problem-solving tasks and the third - is a food-tasting marketing study. We have a lot of faculty and PhD students who need to work on their research projects but not a large enough participant pool, so we are forced to bundle different studies together.

So, the first study involves completing an unscrambling task, where we are investigating how quickly students can complete it. (*Hands out an unscrambling task*). Your goal is to re-arrange the letters to form words. (*Pause*). Um (*looks at the entrance*

door)… since there are two of you, you may work together or by yourselves). (*The experimenter leaves to another room*).

(*Partner-confederate turns toward the actual participant and says with a big smile*). My preference would be to work together, if that's okay with you! (*After actual participant agrees, partner-confederate proceeds to positively reinforce the successes of the actual participant and encourage the participant if he or she gets stuck*).

(*After 5 minutes, the rival confederate knocks and enters through the entrance door. When the experimenter comes to greet him/her, the rival-confederate says*). I'm sorry for being late. May I still participate in the study? (*The experimenter gives him/her the unscrambling task and directs him to the study rom. The rival-confederate proceeds to sit at the table with the partner-confederate and the actual participant. As he/she sits down, he/she starts working with the other two individuals. During that time, the rival-confederate and the partner confederate encourage and validate each other. After three minutes, partner-confederate says).* Wait, I thought we are supposed to be working in pairs or individually. Hang on! Let me go check with the experimenter. (*When the partner-confederate comes back, he/she says*). Actually, we can't work in a group of three. So… (*turns to rival confederate)* do you want to work together with me? (*The rival-confederate readily agrees and the two move to the other table, where they continue working on the unscrambling task and validate each other. In one minute, an experimenter shows up and says*). Okay, the time is up. Please hand in your matrix-sheets. (*Hands out questionnaires).* I will now ask you to complete several questionnaires for the study.

(*Once participants are done, the experimenter says).* We will now move to the second problem-solving study. For this task, I only require two participants – one will be playing the role of the contestant and the other one will be helping me set up the task. Since there are three of you, through a random draw, I will determine who will participate in this task and who will be helping me with the task. (*Ostensibly, through a draw, the actual participant ends up helping the experimenter. The experimenter and the actual participant go into a separate experimenter room. The experimenter says*). Okay, so the next problem-solving task is to similar to the computer game "You don't know Jack". I don't know if you played this game before, but the idea is that the contestant (*pronounces the name of the partner-confederate)* will be presented with nonsensical sentences on the screen and will be asked to type in the saying with which the nonsensical sentence rhymes. Since you had a chance to work with (*pronounces the name of the partner-confederate*) on the unscrambling task and get the feel for his/her abilities, I am going to ask you to help me select the clues which will be presented together with the nonsensical sentences to (*pronounces the name of the partner-confederate*). After the study is over, I will evaluate the performance of everyone who had participated in the "You don't know Jack" game and the person who received the highest score will receive a prize. Any questions? (*The actual participant proceeds to select the clues for the "*You don't know Jack" *game*).

(*After the actual participant is done*, *experimenter says*) Thank you for helping me with this activity. (*Pronounces the name of the partner-confederate*) will participate in this task a bit later, but now all of you guys will be completing the food tasting

marketing study. Let's go into the main room, so that I could give instructions to all the participants. (*Proceed into the main room*).

(*Experimenter says*). Now, you will be asked to participate in the food tasting marketing study, wherein you will be asked to evaluate a certain food product. However, in order for me to remain "blind" to certain aspects of the experiment, you will be preparing food samples for each other. Each one of you will get a box (*shows a box*) containing: 1) three food containers (you will be asked to prepare samples from one of these foods), 2) instructions letting you know which food sample you will be preparing, and 3) two empty containers labeled with the other participants' names in which you will place the sample for each of the other two participants. I have also included the food preferences questionnaires the other two participants completed earlier, just because it might be interesting to see how other students view different foods. Each of you will open the box in a separate room, read the instructions and prepare the samples. After you guys are done preparing the samples, please place them back in the box and come out into the main room. I will then bring out the samples that you prepared for you and ask you to place the content of the entire cup in your mouth so that you could really feel the flavor. I will then ask you some questions about the food you are trying. Any questions? (*Hands out the boxes to the actual participant and the confederates with the food preferences questionnaire being placed on top of the box*)

(After participants come out from separate rooms, experimenter says) Thank you for participating in this study. Here is a debriefing sheet. Please let me know if you have questions.

APPENDIX D

SURVEY ADMINISTERED TO STUDY 3 PARTICIPANTS

Personal Relationships at Work Questionnaire

Dear ARUP Laboratories' Employee,

We need your help. For years, we have been studying the thoughts, feelings, and actions of people at work. And with the support of ARUP Laboratories, we are focusing on interpersonal relationships at work. But, to do so, we need you to complete an online questionnaire for us that should take no more than 20 minutes of your time. By completing the questionnaire and returning it to us, you will be helping to advance scientific understanding of how interpersonal relationships play themselves out in the workplace. The questionnaire contains several sections, with variety of questions about you and your relationships at work.

In return for your help, your name will be entered into a drawing for one of the three prizes: $250 gift certificate to Ruth's Chris Steakhouse, $250 gift certificate to Nordstrom, or an iPad. To enter the drawing, see instructions on the next page. The process designed for entering the drawing guarantees your name can never be linked to your completed questionnaire.

Very importantly, nowhere in the questionnaire are you required to identify yourself; thus, your participation is completely anonymous and, therefore, confidential. In other words, the data will not be shared with anyone at ARUP Laboratories and will stay with only the researcher from the University of Utah. Obviously, your participation is absolutely voluntary.

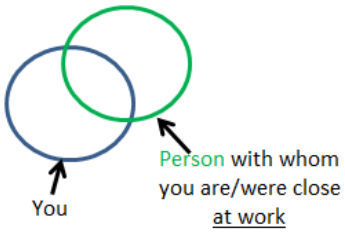
So, PLEASE help by completing the questionnaire by clicking on the link below. Do not forget to enter the drawing after you have completed the questionnaire.
If you have any questions, please contact Ekaterina Netchaeva of the University of Utah at xxx-xxx-xxxx. THANK YOU in advance for your help.

Sincerely,
Arthur Brief, George S. Eccles Chair and Presidential Professor
Ekaterina Netchaeva, Ph.D Candidate

Section 1

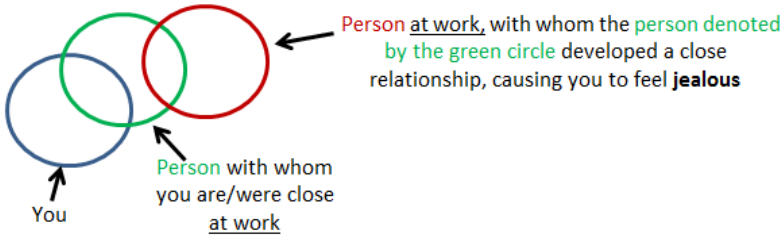
Please read the following instructions **very** carefully.

Instructions: Please take a few moments to think about the people (up to 5) with whom you currently have or have had a close relationship at ARUP over the past year. These people could be older or younger, male or female, managers, co-workers, or subordinates, newcomers to the organization or old-timers.



Before you answer the next question, please study the diagram below:

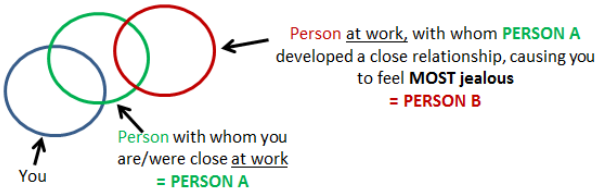
In one of your close relationships (for example, your relationship with a person A), have you ever feared being replaced by another person at work (Person B)? (***Alternative wording:*** Have you ever felt jealous of someone you are close with at work when that person (Person A) developed a close relationship with another individual (Person B) at work ***← to clarify who I am referring to, I will use this diagram on every page of the questionnaire)***



In one of your close relationships at work, have you ever felt jealous or feared being replaced when the person with whom you are/were close developed a close relationship with another person at work?

☐ Yes ☐ No ***←if selected, participants will be directed to the end of the survey***

If you have felt jealous or feared being replaced in one or more of your close relationships at work, please think about the one relationship in which you felt MOST jealous or MOST feared being replaced. Below are series of questions that will help you describe that close relationship with this person (Person A on the diagram) and your feelings about the relationship. Important: nowhere in the questionnaire will you be asked to identify by name yourself or any other individual.



Please describe Person A:

	Not close at all						Very close
1.How close did you feel with Person A before he/she has developed a relationship with Person B	☐	☐	☐	☐	☐	☐	☐

2. Approximately, how many organizational levels are there between Person A and the person at the top of ARUP Laboratories (in numbers)?

Please type _____

3. What position does this person occupy at ARUP Laboratories, relative to you?

- ☐ My supervisor
- ☐ A manager in a different department than mine
- ☐ A co-worker (in other words, a peer in my organizational level) in my department
- ☐ A co-worker(in other words, a peer in my organizational level) in a different department
- ☐ My subordinate
- ☐ A subordinate in a different department than mine

4. Approximately, how long have you known this person (in months)? _____ Months

5. What is this person's gender? ☐ Male ☐ Female

6. Approximately, what is this person's age? _____ Years

7. What is this person's ethnic or racial heritage? Please check ☑ all that apply.

- ☐ African American/Black
- ☐ American Indian
- ☐ Asian or Pacific Islander
- ☐ Hispanic
- ☐ White/Caucasian
- ☐ Other: please specify _____

8. What is this person's marital status? Please check ☑ all that apply.

- ☐ Single
- ☐ Divorced
- ☐ Widowed
- ☐ Married /In a long-term relationship
- ☐ I don't know

A. Please describe the nature of your relationship with **Person A**:

Instructions: The statements below represent what Person A *potentially* receives or received from his/her relationship with you. Some of these benefits may be very characteristic of your relationship, while others may not be characteristic at all. Please rate the extent to which each statement is characteristic of what Person A is *actually* receiving from this relationship by placing a check (☑) in the appropriate box (1 = not at all characteristic; 7 = very characteristic_.

Read each statement carefully, but don't spend too much time deciding on the answer.

Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential. Please remember that ARUP Laboratories will not have access to the individual answers that you provide.

	1	2	3	4	5	6	7
1. I use(d) my influence in the organization for Person's A benefit	☐	☐	☐	☐	☐	☐	☐
2. I help(ed) Person A be more visible in the organization	☐	☐	☐	☐	☐	☐	☐
3. I create(d) opportunities for Person A to impress important people in the organization.	☐	☐	☐	☐	☐	☐	☐
4. I give (gave) Person A suggestions for easier ways of accomplishing tasks.	☐	☐	☐	☐	☐	☐	☐
5. I offer(ed) Person A information on unfamiliar procedures.	☐	☐	☐	☐	☐	☐	☐
6. I give (gave) Person A facts about procedures which have helped Person A perform those procedures.	☐	☐	☐	☐	☐	☐	☐
7. I provide Person A with work-related advice and other work-related support or help	☐	☐	☐	☐	☐	☐	☐
8. I provide Person A with network connections	☐	☐	☐	☐	☐	☐	☐
9. Person A can (could) count on me when things go (went) wrong	☐	☐	☐	☐	☐	☐	☐
10. Person A can (could) share with me his/her joys and sorrows	☐	☐	☐	☐	☐	☐	☐
11. I provide(d) Person A with encouragement and praise when he/she feels (felt) overwhelmed	☐	☐	☐	☐	☐	☐	☐
12. I provide(d) emotional and social support to person A in times of challenge	☐	☐	☐	☐	☐	☐	☐
13. I provide(d) friendship to person A	☐	☐	☐	☐	☐	☐	☐
14. I provide(d) opportunity for flirtation and romance to Person A	☐	☐	☐	☐	☐	☐	☐
15. Person A finds (found) me desirable	☐	☐	☐	☐	☐	☐	☐
16. Person A finds (found) me attractive	☐	☐	☐	☐	☐	☐	☐

Section 2

A. Please describe **Person B**:

1. Approximately, how many organizational levels are there between Person B and the person at the top of ARUP Laboratories (in numbers)?

Please type _____

2. What position does this person occupy at ARUP Laboratories, relative to you?

- ☐ My supervisor
- ☐ A manager in a different department than mine
- ☐ A co-worker (in other words, a peer in my organizational level) in my department
- ☐ A co-worker(in other words, a peer in my organizational level) in a different department than mine
- ☐ My subordinate
- ☐ A subordinate in a different department than mine

3. Approximately, how long have you known this person (in months)? _____ Months

4. What is this person's gender? ☐ Male ☐ Female

5. Approximately, what is this person's age? _____ Years

6. What is this person's ethnic or racial heritage? Please check ☑ all that apply.

- ☐ African American/Black
- ☐ American Indian
- ☐ Asian or Pacific Islander
- ☐ Hispanic
- ☐ White/Caucasian
- ☐ Other: please specify _____

7. What is this person's marital status? Please check ☑ all that apply.

- ☐ Single
- ☐ Divorced
- ☐ Widowed
- ☐ Married /In a long-term relationship
- ☐ I don't know

B. Please describe the nature of the relationship between **Person A** and **Person B**:

Instructions: The statements below represent **Person A** potentially receives or received from the relationship with Person B. Some of these benefits may be very characteristic of the relationship between **Person A** and **Person B**, while others may not be characteristic at all. Please rate the extent to which each statement is characteristic of what **Person A** is *actually* getting out of this relationship by placing a check (☑) in the appropriate box (1 = not at all characteristic; 7 = very characteristic). Read each statement carefully, but don't spend too much time deciding on the answer.

Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential. Please remember that ARUP Laboratories will not have access to the individual answers that you provide.

	1	2	3	4	5	6	7
1. Person B uses (used) his/her influence in the organization for Person's A benefit	☐	☐	☐	☐	☐	☐	☐
2. Person B helps (helped) Person A be more visible in the organization	☐	☐	☐	☐	☐	☐	☐
3. Person B creates (created) opportunities for Person A to impress important people in the organization	☐	☐	☐	☐	☐	☐	☐
4. Person B gives (gave) Person A suggestions for easier ways of accomplishing tasks	☐	☐	☐	☐	☐	☐	☐
5. Person B offers (offered) Person A information on unfamiliar procedures	☐	☐	☐	☐	☐	☐	☐
6. Person B gives (gave) Person A facts about procedures which have helped Person A perform those procedures	☐	☐	☐	☐	☐	☐	☐
7. Person B provides Person A with work-related advice and other work-related support or help	☐	☐	☐	☐	☐	☐	☐
8. Person B provides Person A with network connections	☐	☐	☐	☐	☐	☐	☐
9. Person A can (could) count on Person B when things go (went) wrong	☐	☐	☐	☐	☐	☐	☐
10. Person A can (could) share with Person B his/her joys and sorrows	☐	☐	☐	☐	☐	☐	☐
11. Person B provides (provided) Person A with encouragement and praise when the latter feels (felt) overwhelmed	☐	☐	☐	☐	☐	☐	☐
12. Person B provides (provided) emotional and social support to person A in times of challenge	☐	☐	☐	☐	☐	☐	☐
13. Person B provides (provided) friendship to person A	☐	☐	☐	☐	☐	☐	☐
14. Person B provides (provided) opportunity for flirtation and romance to Person A	☐	☐	☐	☐	☐	☐	☐
15. Person A finds (found) Person B desirable	☐	☐	☐	☐	☐	☐	☐
16. Person A finds (found) Person B attractive	☐	☐	☐	☐	☐	☐	☐

Section 3 [*Measures of Jealousy and Ostracism*]

Instructions: Please indicate how the potential or actual relationship between **Person A** and **Person B** made you feel. Please indicate the strength of each feeling by placing a check (☑) in the appropriate box (1 = not at all; 7 = very strong). Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential. Please remember that ARUP Laboratories will not have access to the individual answers that you provide.

	1	2	3	4	5	6	7
1. Suspicious	☐	☐	☐	☐	☐	☐	☐
2. Worried	☐	☐	☐	☐	☐	☐	☐
3. Distrustful	☐	☐	☐	☐	☐	☐	☐
4. Rejected	☐	☐	☐	☐	☐	☐	☐
5. Anxious	☐	☐	☐	☐	☐	☐	☐
6. Threatened	☐	☐	☐	☐	☐	☐	☐
7. Sad	☐	☐	☐	☐	☐	☐	☐
8. Jealous	☐	☐	☐	☐	☐	☐	☐
9. Angry	☐	☐	☐	☐	☐	☐	☐
10. Betrayed	☐	☐	☐	☐	☐	☐	☐
11. Hurt	☐	☐	☐	☐	☐	☐	☐
12. Excluded	☐	☐	☐	☐	☐	☐	☐
13. Ignored	☐	☐	☐	☐	☐	☐	☐

Section 4 [***Measure of aggression toward partner (SU – social undermining, WI – workplace incivility, WD – workplace); Measure of helpfulness toward partner (IOCB – interpersonal organizational citizenship behavior)***]

Instructions: In the last several months, how have you acted towards **Person A**? Please indicate the extent to which you agree with each statement by placing a check (☑) in the appropriate box (1 = strongly disagree; 7 = strongly agree). Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential. Please remember that ARUP Laboratories will not have access to the answers that you provide.

	1	2	3	4	5	6	7
1. Listened to him/her when he/she had to get something off his/her chest (IOCB)	☐	☐	☐	☐	☐	☐	☐
2. Put him/her down or was condescending to him/her (WI)	☐	☐	☐	☐	☐	☐	☐
3. Took time to listen to his/her problems and worries (IOCB)	☐	☐	☐	☐	☐	☐	☐
4. Acted rudely toward him/her at work (WD)	☐	☐	☐	☐	☐	☐	☐
5. Addressed him/her in unprofessional terms, either publically or privately (WI)	☐	☐	☐	☐	☐	☐	☐
6. Ignored or excluded him/her from professional friendship (WI)	☐	☐	☐	☐	☐	☐	☐
7. Made an effort to understand problems faced by him/her (IOCB)	☐	☐	☐	☐	☐	☐	☐
8. Doubted his/her judgment on a matter over which he/she has responsibility (WI)	☐	☐	☐	☐	☐	☐	☐
9. Tried to cheer him/her up when he/she was having a bad day (IOCB)	☐	☐	☐	☐	☐	☐	☐
10. Publically embarrassed him/her at work (WD)	☐	☐	☐	☐	☐	☐	☐
11. Complimented him/her when he/she succeeded at work (IOCB)	☐	☐	☐	☐	☐	☐	☐
12. Took time to explain regulations or procedures to him/her if he/she had questions (IOCB)	☐	☐	☐	☐	☐	☐	☐
13. Took on extra responsibilities in order to help him/her when things got demanding at work (ICOB)	☐	☐	☐	☐	☐	☐	☐

14. Helped him/her with difficult assignments, even when assistance was not directly requested (ICOB)	☐	☐	☐	☐	☐	☐	☐
15. Assisted him/her with heavy workloads even though it is not part of your job (ICOB)	☐	☐	☐	☐	☐	☐	☐
16. Delayed my work to slow him/her down or make him/her look bad (SU)	☐	☐	☐	☐	☐	☐	☐
17. Helped him/her if he/she was running behind in his/her work activities (IOCB)	☐	☐	☐	☐	☐	☐	☐
18. Talked badly about him/her behind his/her back (SU)	☐	☐	☐	☐	☐	☐	☐
19. Helped him/her with work when he/she has been absent (IOCB)	☐	☐	☐	☐	☐	☐	☐
20. Went out of way to help him/her with work-related problems (IOCB)	☐	☐	☐	☐	☐	☐	☐

Section 5 [***Measure of aggression toward rival (SU – social undermining, WI – workplace incivility, WD – workplace); Measure of helpfulness toward rival (IOCB – interpersonal organizational citizenship behavior)***]

Instructions: In the last several months, how have you acted towards **Person B?** Please indicate the extent to which you agree with each statement by placing a check (☑) in the appropriate box (1 = strongly disagree; 7 = strongly agree). Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential. Please remember that ARUP Laboratories will not have access to the individual answers that you provide.

	1	2	3	4	5	6	7
1. Listened to him/her when he/she had to get something off his/her chest (IOCB)	☐	☐	☐	☐	☐	☐	☐
2. Put him/her down or was condescending to him/her (WI)	☐	☐	☐	☐	☐	☐	☐
3. Took time to listen to his/her problems and worries (IOCB)	☐	☐	☐	☐	☐	☐	☐
4. Acted rudely toward him/her at work (WD)	☐	☐	☐	☐	☐	☐	☐
5. Addressed him/her in unprofessional terms, either publically or privately (WI)	☐	☐	☐	☐	☐	☐	☐
6. Ignored or excluded him/her from professional friendship (WI)	☐	☐	☐	☐	☐	☐	☐
7. Made an effort to understand problems faced by him/her (IOCB)	☐	☐	☐	☐	☐	☐	☐
8. Doubted his/her judgment on a matter over which he/she has responsibility (WI)	☐	☐	☐	☐	☐	☐	☐
9. Tried to cheer him/her up when he/she was having a bad day (IOCB)	☐	☐	☐	☐	☐	☐	☐
10. Publically embarrassed him/her at work (WD)	☐	☐	☐	☐	☐	☐	☐
11. Complimented him/her when he/she succeeded at work (IOCB)	☐	☐	☐	☐	☐	☐	☐
12. Took time to explain regulations or procedures to him/her if he/she had questions (IOCB)	☐	☐	☐	☐	☐	☐	☐
13. Took on extra responsibilities in order to help him/her when things got demanding at work (ICOB)	☐	☐	☐	☐	☐	☐	☐

14. Helped him/her with difficult assignments, even when assistance was not directly requested (ICOB)	☐	☐	☐	☐	☐	☐	☐
15. Assisted him/her with heavy workloads even though it is not part of your job (ICOB)	☐	☐	☐	☐	☐	☐	☐
16. Delayed my work to slow him/her down or make him/her look bad (SU)	☐	☐	☐	☐	☐	☐	☐
17. Helped him/her if he/she was running behind in his/her work activities (IOCB)	☐	☐	☐	☐	☐	☐	☐
18. Talked badly about him/her behind his/her back (SU)	☐	☐	☐	☐	☐	☐	☐
19. Helped him/her with work when he/she has been absent (IOCB)	☐	☐	☐	☐	☐	☐	☐
20. Went out of way to help him/her with work-related problems (IOCB)	☐	☐	☐	☐	☐	☐	☐

Section 6 ← ***Measure of envy***

Instructions: The statements below refer to your feelings toward the person who threatened your close relationship (Person B). Please indicate the extent to which you agree with each statement by placing a check (☑) in the appropriate box (1 = strongly disagree; 9 = strongly agree). Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential. Please remember that ARUP Laboratories will not have access to the answers that you provide.

	1	2	3	4	5	6	7	8	9
1. I feel rancor (resentment, ill-will)	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. I feel some hatred	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. I feel bitter	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. I have a grudge against person B (resentment, bitterness)	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. I feel gall (irritated, annoyed)	☐	☐	☐	☐	☐	☐	☐	☐	☐

6.	I feel envious	☐	☐	☐	☐	☐	☐	☐	☐	☐
7.	I want what person B has	☐	☐	☐	☐	☐	☐	☐	☐	☐
8.	I feel lacking some of the things that person B has	☐	☐	☐	☐	☐	☐	☐	☐	☐
9.	Person B has things going better for him/her	☐	☐	☐	☐	☐	☐	☐	☐	☐

Section 7

Instructions: Please answer each of the following questions. Do not skip any items. Remember, your answers are anonymous, and, thus, completely confidential Please remember that ARUP Laboratories will not have access to the individual answers that you provide.

1. What is your gender? ☐ Male ☐ Female

2. What is your age? _____ Years

3. What is the highest level of education you have completed (check one ☑)?

- ☐ No schooling completed
- ☐ High school diploma (or GED)
- ☐ Some college credit, but no degree
- ☐ Associate's degree (including license to practice cosmetology)
- ☐ Bachelor's degree (B.A., B.S., etc.)
- ☐ Master's degree
- ☐ Ph.D., M.D., other doctorate

4. What is your marital status?

- ☐ Single
- ☐ Divorced
- ☐ Widowed
- ☐ Married/In a long-term relationship
- ☐ Divorced/Separated

5. What do you consider to be your ethnic or racial heritage?

- ☐ African American/Black
- ☐ American Indian
- ☐ Asian or Pacific Islander
- ☐ Hispanic
- ☐ White/Caucasian
- ☐ Other: please specify _____

8. Do you work: ☐ Full-time ☐ Part-time

10. For how long have you worked at ARUP Laboratories (in years)? _____Years

11. In which ARUP division do you work (check one ☑)?

- ☐ Chemistry Total
- ☐ Client Services Total

☐ Infectious Disease Total
☐ Specimen Handling Total
☐ Other, please specify_____

12. Approximately, how many organizational levels are there between you and the person at the top of ARUP Laboratories (in numbers)?

Please type _____

13. What is your sexual orientation?

☐ Heterosexual ☐ Homosexual ☐ Other

If you have any comments about the study, please leave them in the box below:

_____

This is the end of the survey. Thank you very much for your help!

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