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# Intrasexual competition at work: Sex differences in the jealousy-evoking effect of rival characteristics in work settings

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#### ABSTRACT

Sex differences in jealousy-evoking rival characteristics in the relationship with a supervisor at work were examined in a community sample of 188 individuals from Argentina. Among men, the rivals' social dominance and communal attributes evoked the most jealousy, followed by physical dominance. Among women, the rival's communal attributes evoked the most jealousy, followed by social dominance and physical attractiveness. For men physical dominance of the rival and for women physical attractiveness of the rival evoked relatively more jealousy, especially among those high in intrasexual competition and confronted with a same-sex supervisor. When confronted with an opposite-sex supervisor, social comparison orientation was associated with more jealousy in response to rivals with communal attributes.

KEY WORDS: envy • intrasexual competition • jealousy • relationships in organizations

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#### Introduction

Jealousy is a negative emotional response to a threat to one's relationship caused by a rival vying for the attention of one's partner (cf. Bringle & Buunk, 1985; Guerrero, Spitzberg & Yoshimura, 2004; Salovey, 1991). The degree of jealousy is, in part, determined by the rival's characteristics in comparison to the self (e.g., Broemer & Diehl, 2004; Dijkstra & Buunk, 2001; Schmitt, 1988). An evolutionary perspective leads to an expectation of sex differences in the impact of specific rival characteristics. Supposedly, present-day humans are characterized by a complex set of mental mechanisms that have evolved because these fostered survival and reproductive success in ancestral times. During the course of human evolution, an enduring relationship between mates increased the chances of survival of one's offspring. Therefore, jealousy is supposed to have evolved especially to alert the individual to take action to prevent a mate from being unfaithful and from abandoning the relationship (e.g., Buss, 2000; Buunk & Dijkstra, 2006).

Parental investment theory, a middle-range evolutionary theory, states that, because women tend to invest more in their offspring than do men. they have developed partially different mate preferences (for a review, see Geary, 2005). Considerable evidence exists for sex differences in expressed (though not necessarily realized) mate preferences. Men generally value a potential mate's physical attractiveness relatively more than women, supposedly because in ancestral times physical attractiveness represented an important cue to a woman's fertility. In contrast, women value a potential mate's social status and dominance relatively more than do men, supposedly because in ancestral times women benefited from selecting mates who were able to provide them and their offspring with sufficient resources and protection (e.g., Buss, 1989; Kenrick, Sadalla, Groth & Trost, 1990; Schmitt, 2005). Throughout our evolutionary history, men and women competed with same-sex others on the characteristics that made them a valued partner to the opposite sex. Therefore, high status and dominant rivals should be more threatening rivals to men, and physically attractive rivals should be more threatening rivals to women.

From this perspective, Dijkstra and Buunk (2002) developed an inventory of rival characteristics in other individuals that would likely evoke jealousy when vying for the attention of one's partner (for a review, see Buunk, Massar & Dijkstra, 2007). This research program eventually resulted in a five-factors inventory of 56 rival characteristics, i.e. social dominance, physical attractiveness, seductive behavior, physical dominance and social status. A major finding obtained with Dutch college and community samples was that, as expected, in men (when compared with women), jealousy was evoked by the rival's social and physical dominance, whereas in women (more than in men), jealousy was evoked by the rival's physical attractiveness.

In a study among students and young professionals in Spain and Argentina, using the same characteristics, Buunk, Castro Solano, Zurriaga, and Gonzales (in press) found that a four-factor solution did best fit their data. The first two factors were also identified in The Netherlands, i.e., physical attractiveness (e.g., has a tighter waist) and physical dominance (e.g., has broader shoulders). However, the other two factors differed from those found in The Netherlands. The third factor included characteristics related to social dominance, seductive behavior and social status and was labeled social power and dominance (e.g., behaves more provocatively). The fourth factor included a set of characteristics that was labeled social-communal attributes (e.g., is a better listener). In both Spain and Argentina, men experienced more jealousy than women when their rival was more physically dominant and women experienced more jealousy when their rival was more physically attractive, had more social-communal attributes and more social power and dominance. Nevertheless, the rival's social-communal attributes evoked the greatest degree of jealousy in both men and women. Next, among men, the rival's social power and dominance evoked most jealousy, followed by his physical dominance, with the rival's physical attractiveness evoking the least jealousy. Among women, the order for these three rival characteristics was quite different: the rival's physical attractiveness exceeded social power and dominance, with the rival's physical dominance evoking the least jealousy.

#### Jealousy in work relationships

In addition to intimate relationships, jealousy also likely occurs within work relationships. To be clear, our focus is not on jealousy in intimate relationships that occur in the workplace, for example, when one is involved in a romantic relationship with a colleague, who then becomes attracted to a third person. By jealousy in work relationships, we refer to situations where a rival interferes in a valued relationship with a co-worker. As in jealousy in intimate relationships, jealousy in work relationships involves three parties, i.e., the focal employee, the rival and the valued target person. More specifically, paralleling intimate jealousy, jealousy in work relationships is defined as a negative emotional response to a threat to a valued relationship with a co-worker caused by the interference of a third person (cf. White & Mullen, 1989; Vecchio, 1995; Vecchio 2000). As with intimate relationships, jealousy in work relationships may reduce self-worth and increase feelings of inferiority (Ambrose, Harland & Kulik, 1991; Mumford, 1983).

Organizational-behavior researchers only recently began to apply evolutionary perspectives (Colarelli, 2003; Nicholson, 1998). Many traits, attitudes and behaviors in the workplace reflect, in part, evolved psychological mechanisms (Ilies, Arvey, & Bouchard, 2006). Jealousy in work relationships may also be viewed from an evolutionary perspective. Therefore, because jealousy-evoking mechanisms may function automatically and unconsciously (Buunk et al., 2007), we hypothesize that, in work relationships, jealousy is evoked by the same rival characteristics as in intimate relationships. Thus, social and physical dominance of the rival will evoke relatively more jealousy among males, and physical attractiveness of the rival among females.

#### Jealousy and intrasexual competition

We assume that different rival characteristics tend to evoke varying levels of jealousy in men and women. We further assume that this is not restricted to intimate relationships, but reflects a broader phenomenon resulting from the evolution of intrasexual competition, i.e., the competition between samesex individuals for the attention of opposite-sex partners. In this process, opposite-sex preferences became weapons in same-sex competition (Luxen & van de Vijver, 2006). Therefore, whereas men generally tend to compete relatively more over dominance and status, women generally tend to compete relatively more over physical attractiveness (Campbell, 2004). Women most often nominate, perform and rate the tactic of attracting attention to their appearance as effective, even when no mention is made of what the competition is about (Walters and Crawford, 1994; Cashdan, 1998). It may be noted, however, that being attractive does not necessarily facilitate a woman's occupational success. For example, attractive women may be disadvantaged by their appearance in applying for managerial positions (Heilman & Saruwatari, 1979: Luxen & van de Viiver, 2006).

Given our assumptions, we examined which of the four clusters of rival characteristics correlated with individual differences in intrasexual competition. Buunk and Fischer (2009) developed a scale to assess differences in intrasexual competition (ISC) as an attitude. This attitude concerns the degree to which one views the contact with same-sex individuals, especially when opposite-sex others are involved, in competitive terms. Thus, ISC as an individual difference characteristic implicates a number of other phenomena. That is, ISC includes the importance of one's relative, instead of one's absolute, position (Frank, 1985); the desire to beat others rather than to perform well (cf. Van Yperen, 2003); the desire to view oneself as better than others rather than as good (cf. self-enhancement, Zuckerman & O'Loughlin, 2006); envy and frustration when others are better off and negative feelings towards such others (cf. Smith & Kim, 2007); and malicious pleasure when high achievers ("tall poppies") lose face (cf., Feather, 1994). In the Buunk and Fischer (2009) scale these phenomena focused on same sex rival's and on dimensions relevant to mating, or mating contexts. To the extent that the impact of a specific rival characteristic reflects intrasexual competition – such as physical dominance among males and physical attractiveness among females - it should be more prevalent among those with high in ISC.

#### Jealousy and social comparison orientation

Because jealousy is spurred, in part by comparing the rival's characteristics to one's own, this study also examines the extent to which social comparison orientation (SCO; Buunk & Gibbons, 2006; Gibbons and Buunk, 1999) covaries with the jealousy-evoking effect of the four clusters of rival characteristics. SCO refers to the extent to which individuals use social comparisons

to evaluate their characteristics, relate to themselves what happens to others, and are particularly interested in information about others' thoughts and behaviors in similar circumstances. Individuals high in SCO are, among other things, characterized by a strong interest in what others feel, a strong empathy for others, and a general sensitivity to the needs of others. This may seem odd because Gardner, Gabriel, and Hochschild (2002) suggested social comparison would be associated with independence oriented toward differentiating the self from others in a competitive way. Evidence suggests, however, that SCO, reflects a prosocial and interdependent self as SCO scores correlate strongly with interpersonal orientation, i.e., an interest in what makes people tick, a tendency to be influenced by others' moods and criticism, and an interest in mutual self-disclosure (Swap & Rubin, 1983). In a similar vein, SCO scores also correlate moderately with communal orientation scores (Clark, Ouellette, Powell, & Milberg, 1987) or a sensitivity to others' needs and a willingness to help others in need. Considerable evidence indicates that SCO predicts responses to social comparison in intimate relationships (e.g., Buunk, 2006) and work relationships (e.g., Buunk, Ybema, Gibbons & Ipenburg, 2001). Thus, we predict that individuals high in SCO will respond with a heightened sensitivity to rivals interfering in work relationships. Indeed, individuals high in SCO responded with more jealousy than those low in SCO (Dijkstra & Buunk, 2002).

#### The leader-subordinate relationship

The present research focused on the leader-subordinate relationship because feelings toward supervisors are likely to be more intense than feelings towards coworkers, as supervisors control important outcomes that may affect one's status and self concept (Vecchio, 2000). In addition, a good relationship with the supervisor may evolve into a friendship. Therefore, jealousy may be aroused when one's supervisor, with whom one gets along well, pays considerable attention to a colleague, either on the basis of performance and skills or a personal relationship. Scenarios in this study were made more threatening by suggesting a good relationship with the supervisor and by implying that the rival might affect one's ability to get a promotion. This was performed specifically to enhance women's jealousy based from characteristics other than physical attractiveness.

Managerial positions are traditionally considered to be male gender-typed as organizational authority, responsibility, and status characteristic of these jobs have typically been associated with men, rather than with women (e.g., Ragins & Sundstrom, 1989). While masculine attributes may be relatively beneficial to one's career, feminine characteristics may be relatively detrimental (Powell & Butterfield 1989; Rosen & Jerdee, 1974; Schein, 1973). Attractiveness, for example, enhances gender stereotyping (Gillen, 1981), and attractive women may sometimes be disadvantaged when applying for managerial positions or other male sex-typed positions (Heilman & Saruwatari, 1979). Therefore, finding that the rival's physical attractiveness evokes more jealousy in women than in men, would reinforce the notion that jealousy evoked by physically attractive rivals is deeply rooted in women's evolutionary history.

By adding the promotion to the present scenarios, we may have induced both jealousy and envy. In general, jealousy is conceptualized as a response to a threat of losing outcomes in one's relationship due to a rival's interference, whereas envy is a response to someone else possessing outcomes, skills or qualities that one desires (e.g., Vecchio, 1995, 2000; Smith & Kim, 2007). Thus, the present scenario may generate jealousy because of the relationship threat and envy because the rival might obtain outcomes one craves. In many languages, however, including Dutch, English and Spanish, the same word is used for what scholars refer to as jealousy and envy. Although often deplored, there are good reasons for such a practice. First, both concepts imply competition and rivalry over valued resources, (e.g., love and attention from a valued relationship partner and a highly valued resource). Second, envy is often an important part of jealousy. For example, one envies the exclusive attention one's partner is giving to the rival (Buunk, 1981), or the rival's qualities that are attractive to one's partner (Diikstra & Buunk, 2002). Indeed, in pilot study, individuals appeared not to distinguish jealousy and envy. Therefore, we interpret jealousy responses as indications of rivalry. Nevertheless, strictly speaking, the potential loss of a relationship with a supervisor could evoke jealousy, but tension over the promotion could evoke envy.

We also examined whether the supervisor's sex influenced the jealousyevoking rival characteristics. When the supervisor is of the opposite sex to the participant and the rival, intrasexual competition seems more relevant. In these conditions, participants may have an added reason to be sensitive to rival characteristics valued by the opposite sex. Males and females will be more sensitive to rival characteristics triggered by their respective mechanisms that have evolved during human evolution.

We can also adopt another line of reasoning. Women care more about other women's opinions of attractiveness than about those of men (e.g., Graziano, Jensen-Campbell, Shebilske, & Lundgren, 1993), suggesting that within-sex competition can take on a dynamic of its own (Campbell, 2004). Thus, if the supervisor is female, a physically attractive rival may evoke even more jealousy among women than when the supervisor is male. The same may be true for communal attributes, as such attributes characterize women more than men (Campbell, 2002). As these characteristics are often considered inconsistent with a managerial position, especially when supervisors are males, they might evoke less jealousy in women when the supervisor is male.

To summarize, the present study examined if similar sex differences in jealousy-evoking characteristics exist in the relationship with a supervisor as they appear in intimate relationships, and if the sex of the supervisor affects the importance of sex-specific rival characteristics. In addition, we examined if sex differences in the impact of specific rival characteristics are moderated by individual differences in ISC and in SCO.

#### Method

#### Participants

Residents of Buenos Aires, Argentina (N = 187; 101 females and 86 males) participated in the study. At the time of their participation, 44% were employed full time, 33% were employed part time, 17% were unemployed but had work experience, and the remaining 6% had no work experience.

#### Procedure

Field work was coordinated by the third author, and performed by students as part of a research methods course. Students were informed of the study's goals and rationale, and read and discussed relevant articles. Next, the students completed the questionnaires (not analyzed) to learn the study's protocol. Finally, students were each asked to find six individuals from their social network and to randomly give one questionnaire to each individual. Participation was, of course, voluntary, but none of the individuals approached refused to participate. Participants did not receive money for their participation, and completed the questionnaire in the presence of the students. This form of data collection generated strong data in previous research (Buunk et al., in press).

#### Measurement

Participants received a questionnaire in which they were asked to place themselves into the situation at a work setting. Each questionnaire contained one hypothetical jealousy scenario. In the first scenario, the supervisor was male; in the second scenario the supervisor was female. The rival was always of the same sex. The scenario read as follows:

You have worked at a company for two years. You know that within a couple of months there will be a vacancy at the management level of the department you are working at. You are rather fed up with your current job and you are ready for a new challenge. Therefore, you really want this management position. Your male/female supervisor is the one who gets to decide who gets the position. You get along really well with your supervisor and so you think you have a good chance of getting the job. However, in the past two months a new male/female colleague is working at your department in the same job as you are. This new colleague seems to connect quite well with your supervisor. They go to lunch with each other quite often and, because of this, your supervisor can't go to lunch with you as often as he/she used to do. In the weekly meetings your supervisor also doesn't ask your opinion on certain subjects as often as before. On the contrary, your supervisor always seems to be very much interested in the opinion of your new colleague.

**Jealousy.** Following the scenario, participants were asked a series of questions beginning with this stem "How jealous would you feel about your colleague, if the other man/women ..." with 24 characteristics about their rival. Female participants received exactly the same questions, only differing

in the sex of their work rival. Items assessed the four Buunk et al. (in press) dimensions: *social power and dominance* (e.g., has more authority), *physical attractiveness* (e.g., has a tighter waist), *social-communal attributes* (e.g., is a better listener), and *physical dominance* (e.g., is physically stronger). Each characteristic was measured on a 5-point scale (1= not at all, 5 = very strong).

**Intrasexual competition.** Participants completed the 12-item Spanish version of the ISC scale (Buunk & Fischer, 2009). This scale measures the dispositional tendency to compete with same-sex others (e.g. "When I go out, I can't stand it when women/men pay more attention to a same-sex friend of mine than to me"). Each item was accompanied by a 7-interval scale (1 = 'not at all applicable' to 7 = 'completely applicable'). Cronbach alpha was .83 in this sample.

**Social comparison orientation.** We administered the validated Spanish version of the SCO scale (Buunk, Belmonte, Peiró, Zurriaga, & Gibbons, 2005). This scale measures the dispositional tendency to compare oneself with others (e.g., "I always like to know what others in a similar situation would do"). Items were assessed on a 5 point scale (1 = 'strongly disagree', 5 = 'strongly agree'). Cronbach alpha was .79 in this sample.

#### Results

#### Effects of the sex of participant and supervisor on jealousy ratings

To examine the effects of sex and supervisor sex a MANOVA was performed with both variables as factors (2 × 2 design) and the four scales as dependent variables. The analysis revealed a main effect of sex (F(4, 180) = 15.30, p = .00) indicating that, overall, rivals evoked more jealousy among women. However, men experienced more jealousy than did women when the rival was more physically dominant, F(1, 183) = 5.52, p = .02, whereas women experienced more jealousy than did men when the rival was more physically attractive, F(1, 183) = 15.55, p = .00. Men and women did not differ in the extent to which social power, F(1, 183) = .00, p = .95, and social-communal attributes, F(1, 183) = 2.54, p = .11, of the rival evoked feelings of jealousy (see Table 1 for the M's and SD's of the rival characteristics).

Furthermore, the MANOVA did not reveal a main effect for supervisor sex, F(4,180) = .97, p = .43, which implies that the supervisor being male or female did not evoke different feelings of jealousy in response to the various rival characteristics. The interaction between sex and supervisor sex was also not significant, F(4, 181) = .94, p = .44.

Within-subject, repeated measures ANOVA's and subsequent pairwise comparisons were conducted for each sex in order to establish which rival characteristics evoked most jealousy. Results showed a significant effect for men, F(3, 83) = 122.12, p < .01,  $\eta^2 = .59$ , and for women, F(3, 99) = 227.62, p < .01,  $\eta^2 = .76$ . In men, differences between the rival characteristics were

Rival Characteristic	<i>M</i> (SD)	
	Men	Women
Physical attractiveness	1.34 (.59)	1.79 (.89)
Physical dominance	1.46 (.67)	1.28 (.35)
Social power and dominance	2.01 (.97)	2.02 (.90)
Social-communal attributes	1.94 (.77)	2.14 (.94)

 TABLE 1

 Jealousy evoked by rival characteristics as a function of sex in a work setting

significant (t > 3.00, p < .01), except that social power and dominance and social-communal attributes evoked similar levels of jealousy (p = .30). These two types of characteristics evoked the highest level of jealousy, followed by physical dominance, with physical attractiveness evoking the least jealousy. In women, differences between all rival characteristics were significant (all t > 2.75, all p < .01). Social-communal attributes evoked most jealousy, followed by social power and dominance, physical attractiveness, and physical dominance evoking the least jealousy.

Effects of intrasexual competition. To examine the role of individual differences in ISC with respect to the jealousy-evoking rival characteristics, correlations were computed for each of the four conditions. All correlations were significant (r between .37 and .73, p < .01), indicating that jealousy at work related to ISC differences. To examine which rival characteristic was most typical for those high in ISC, we controlled for the levels of jealousy in response to other rival characteristics, through hierarchical regression. For males with a female supervisor, the model was significant,  $R^2 = .43$ , F(4, ..., F(4, ..., K))(43) = 7.33, p = .00, but none of the rival characteristics made an independent contribution. Thus, in this setting, males high in ISC were more jealous, but not specifically when the rival had particular characteristics. For males with a male supervisor, the model explained more variance  $R^2 = .57$ , F(4, ..., F(4, ..., K))39) = 11.35, p = .00. Moreover, the most typically male rival characteristic, physical dominance, made a substantial contribution,  $\beta = .73$ , p < .001. Thus, intrasexually competitive males with a male, but not with a female, supervisor would be especially jealous when the rival was physically dominant.

A similar pattern was found for females. That is, for females with an opposite-sex supervisor the model was significant,  $R^2 = .50$ , F(4, 51) = 3.99, p = .01, but none of the rival characteristics made an independent contribution. For females with a female supervisor, the model explained more variance,  $R^2 = .69$ , F(4, 49) = 10.45, p = .00. Moreover the most typically female rival characteristic, physical attractiveness, made a significant contribution,  $\beta = .38$ , p = .03, in addition to social power and dominance,  $\beta = .64$ , p = .00. Thus, among males as well as females, the presence of a same-sex supervisor seemed to make sex-specific rival characteristics particularly threatening.

**Social comparison orientation.** To examine the role of individual differences in SCO with respect to the jealousy-evoking rival characteristics, correlations were computed for each of the four conditions. All correlations with SCO were significant, although considerably smaller than with ISC (*r* between .19 and .35). This indicates that jealousy at work is related to individual differences in SCO. To examine which rival characteristic was most typical for those high in SCO, we again controlled for the other rival characteristics using hierarchical regression.

For males with a male supervisor, the model was not significant,  $R^2 = .19$ , F(4, 40) = 2.07, p = .11, and none of the rival characteristics made an independent contribution, all  $\beta < .31$ . p > .23. For males with a female supervisor, the model explained somewhat more variance,  $R^2 = .24$ , F(4, 40) = 3.13, p = .03. Only social-communal characteristics made a significant contribution,  $\beta = .54$ , p = .01. Thus, for males with a strong inclination to compare themselves with others, the presence of an opposite-sex supervisor apparently made social-communal traits relatively threatening rival characteristics.

A similar pattern was found for females. For females with a same-sex supervisor the model was significant,  $R^2 = .35$ , F(4, 49) = 5.94, p = .00, but none of the rival characteristics made an independent contribution. For females with an opposite-sex supervisor the model explained less variance,  $R^2 = .17$ , F(4, 51) = 2.44, p = .06. Social-communal characteristics made a significant contribution,  $\beta = .47$ , p = .02. Thus, among males as well as females, the presence of an opposite-sex supervisor seemed to make social-communal characteristics of the rival particularly threatening.

#### Discussion

The main goal of this research was to investigate whether sex differences in the jealousy-evoking effect of rival characteristics that have been found in intimate relationships (Dijkstra & Buunk, 2002; Buunk et al., in press), are also manifest in work relationships. Based on our assumption that the jealousy-evoking mechanisms stem from an evolutionary process of intrasexual competition, these may function automatically and unconsciously (Buunk et al., 2007). Further, we assumed that these mechanisms also operate in modern settings where they may not be adaptive.

The present results indicate that sex differences in rival characteristics that evoke jealousy in Argentinean men and women are virtually the same in the work setting as in intimate settings. Although the levels of jealousy were in general not particularly large, in the work relationships examined in the present research, the rival's physical attractiveness aroused more jealousy in women than in men, and the rival's physical dominance aroused more jealousy in men than in women. For men, social power and dominance and communal attributes were the most jealousy-evoking, followed by physical dominance, with physical attractiveness evoking the lowest level of jealousy. For women, communal attributes were the most jealousy-evoking, followed by social power and dominance and physical attractiveness, with physical dominance evoking the lowest level of jealousy. Similarities between intimate and work relationships suggest that an evolved mechanism underlies jealousy, which functions in intimate relationships and also within evolutionarily novel work contexts. This likely occurs because our Stone Age ancestors' societies did not clearly distinguish between private and working life. Evolutionary psychologists generally acknowledge that, because the current environment differs from the one in which we evolved, adaptations may not always be functional (e.g., Campbell, 2002). The jealousy-evoking mechanism evolved in societies quite different from modern organizations. These organizations, characterized by complex patterns of interdependence and competitiveness, may include female managers. In such evolutionarily novel contexts, similar sex differences occur as those evolved in intimate relationships – although they may not be adaptive.

Although physical attractiveness evoked less jealousy in women then did social-communal attributes and social power and dominance, physical attractiveness did evoke more jealousy in women than in men (although both means were very low). The sex difference on this factor is especially noteworthy because we tried to enhance women's motivation to be jealous in response to other rival characteristics than physical attractiveness. Indeed, in work settings it may not be particularly advantageous for women to be attractive (Heilman & Saruwatari, 1979), suggesting that the jealousyevoking mechanism may be so deeply rooted that it overrules rational considerations (Buunk et al., 2007). For women this implies that, in work relationships, characteristics that evoke jealousy may not always be functional. That the sex of the supervisor did not have a direct effect on the importance of particular rival characteristics suggests that the rival was the centre of attention and that the social context did not influence the degree of jealousy evoked by rival characteristics.

Sex of the supervisor *did* emerge when considering individual differences in ISC and SCO. Findings suggest that individuals high in ISC are relatively sensitive to the sex of their supervisor: When under a same-sex supervisor, they tend to be more jealous when the rival has important same-sex characteristics, i.e., physical dominance in males and physical attractiveness in females. A same-sex group may make competition on sex-specific characteristics especially salient. It does not appear that an opposite-sex supervisor triggers competition on these characteristics. This suggests that intrasexual competition has a sort of dynamic of its own, more induced by same-sex others than by opposite-sex others (cf., Buunk & Fischer, 2007; Campbell, 2002; Geary, 1998).

SCO, as conceptualized by Buunk and colleagues (Gibbons & Buunk, 1999; Buunk & Gibbons, 2006), was less strongly and differentially related to jealousy than ISC. Overall, men and women higher in SCO experienced more jealousy to all the rival characteristics. Only when confronted with an opposite-sex supervisor, however, did those high in SCO feel especially threatened by rivals with social-communal characteristics. These findings are difficult to explain, but these characteristics may be especially valued by those high in SCO (Gibbons & Buunk, 1999), who may be especially sensitive to rival characteristics they themselves value. For those high in SCO,

developing and demonstrating social-communal characteristics may be a mating strategy that is activated when confronted with a supervisor of the opposite sex. The mating implications of SCO have not been addressed, and would represent an important issue for future research.

The present research has a number of limitations. First, because scenarios included both a threat to a valued relationship and the acquisition of a valued resource (i.e., a promotion), we may have simultaneously induced jealousy and envy. Although not a distinction made in participants' daily language, future research should disentangle these responses. Second, we used the leader-subordinate relationship as the valued relationship, because supervisors control more resources than do coworkers, and may therefore evoke more jealousy. It is not clear whether the present findings will replicate to relations with coworkers. Third, both same-sex and opposite-sex rivals may evoke jealousy at work. Jealousy-evoking characteristics used in this study, however, assessed intrasexual competition. Therefore, this measure seems ill-suited to investigate opposite-sex rivals' jealousy-evoking characteristics. Nevertheless, future research should investigate the jealousyevoking rival characteristics in a work setting when the rival is of the opposite sex. Finally, results may in part reflect conceptions of the characteristics that it takes to be promoted, such as social power, dominance and social skills.

Despite these limitations, the present research suggests that rivals' characteristics that evoke jealousy in work relationships may be similar to those that evoke jealousy in intimate relationships, and that, remarkably, this occurs particularly among individuals who have competitive feelings towards same-sex individuals and who are exposed to a supervisor of their own sex. The present research illuminates the convergence in processes in intimate and in work relationships and suggests that both types of relationships may have more in common than generally is assumed.

#### REFERENCES

- Ambrose, M. L., Harland, L. K., & Kulik, C. T. (1991). Influence of social comparisons on perceptions of organizational fairness. *Journal of Applied Psychology*, 76, 239–246.
- Bringle, R. G., & Buunk, B. (1985). Jealousy and social behavior. *Review of Personality and Social Psychology*, 6, 241–264.
- Broemer, P., & Diehl, M. (2004). Romantic jealousy as a social comparison outcome: When similarity stings. *Journal of Experimental Social Psychology*, *40*, 393–400.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral & Brain Sciences*, *12*, 1–49.
- Buss, D. M. (2000). *The dangerous passion: Why jealousy is as necessary as love and sex*. New York: Free Press.
- Buunk, A. P. (1981). Jealousy in sexually open marriages. Alternative Lifestyles, 4, 357-372.
- Buunk, A. P. (2006). Responses to a happily married other: The role of relationship satisfaction and social comparison orientation. *Personal Relationships*, 13, 397–409.
- Buunk, A. P., Belmonte, J., Peiró, J. M., Zurriaga, R., & Gibbons, F. X. (2005). Individual differences in social comparison: Characteristics of the Spanish language scale of social comparison orientation. *Revista Latinoamericana de Psicología*, 37, 561–581.
- Buunk, A. P., Castro Solano, A., Zurriaga, R., & González, P. (in press). Sex differences in the

jealousy-evoking effect of rival characteristics: A study in Spain and Argentina. *Journal of Cross-Cultural Psychology*.

- Buunk, A. P., & Dijkstra, P. (2006). The threat of temptation: Extradyadic relationships and jealousy. In D. Perlman & A. L. Vangelisti (Eds.). *The Cambridge handbook of personal relationships* (pp. 533–556). New York: Cambridge University Press.
- Buunk, A. P., & Fischer, M. (2009). Individual differences in intrasexual competition. *Journal of Evolutionary Psychology*, 7, 37–48.
- Buunk, A. P., & Gibbons, F. X. (2006). Social comparison orientation: A new perspective on those who do and those who don't compare with others. In S. Guimond (Ed.), Social comparison and social psychology: Understanding cognition, intergroup relations and culture (pp. 15–33). Cambridge, England: Cambridge University Press.
- Buunk, A. P., Massar, K., & Dijkstra, P. (2007). A social cognitive evolutionary approach to jealousy: The automatic evaluation of one's romantic rivals. In J. Forgas, M. Haselton, & W. Von Hippel (Eds.). Evolution and the social mind: Evolutionary psychology and social cognition. (pp. 213–228). New York: Psychology Press.
- Buunk, A. P., Ybema, J. F., Gibbons, F. X., & Ipenburg, M. L. (2001). The affective consequences of social comparison as related to professional burnout and social comparison orientation. *European Journal of Social Psychology*, 31, 337–351.
- Campbell, A. (2002). *A mind of her own: The evolutionary psychology of women*. New York: Oxford University Press.
- Campbell, A. (2004). Female competition: Causes, constraints, content, and contexts. *The Journal of Sex Research*, *41*, 16–26.
- Cashdan, E. (1998). Are men more competitive than women? *British Journal of Social Psychology*, *37*, 213–229.
- Clark, M. S., Ouellette, R., Powell, M. C., & Milberg, S. (1987). Recipient's mood, relationship type, and helping. *Journal of Personality and Social Psychology*, 53, 93–103.
- Colarelli, S.M. (2003). No best way: An evolutionary perspective on human resource management. Westport, CT: Praeger.
- Dijkstra, P., & Buunk, A.P. (2001). Sex differences in the jealousy-evoking nature of a rival's body build. *Evolution and Human Behavior*, 22, 335–341.
- Dijkstra, P., & Buunk, A.P. (2002). Sex differences in the jealousy-evoking effect of rival characteristics. European Journal of Social Psychology, 32, 829–852
- Feather, N. T. (1994). Attitudes towards high achievers and reactions to their fall: Theory and research concerning tall poppies. Advances in Experimental Social Psychology, 26, 1–73.
- Frank, R. H. (1985). *Choosing the right pond: Human behavior and the quest for status*. New York: Oxford University Press.
- Gardner, W. L, Gabriel, S., & Hochschild, L. (2002). When you and I are "we", you are not threatening: The role of self-expansion in social comparison. *Journal of Personality and Social Psychology*, 82, 239–251.
- Geary, D. C. (1998). *Male, female: The evolution of human sex differences*. Washington, DC: American Psychological Association.
- Geary, D. C. (2005). Evolution of paternal investment. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 483–505). Hoboken, NJ: Wiley.
- Gibbons, F. X., & Buunk, A. P. (1999). Individual differences in social comparison: Development of a scale of social comparison orientation. *Journal of Personality and Social Psychol*ogy, 76, 129–142.
- Gillen, B. (1981). Physical attractiveness: A determinant of two types of goodness. *Personality* and Social Psychology Bulletin, 7, 277–281.
- Graziano, W. G., Jensen-Campbell, L. A., Shebilske, L. J., & Lundgren, S. R. (1993). Social influence, sex differences, and judgments of beauty: Putting the interpersonal back in interpersonal attraction. *Journal of Personality and Social Psychology*, 65, 522–531.
- Guerrero, L. K., Spitzberg, B. H. & Yoshimura, S. M. (2004). Sexual and emotional jealousy. In J. H. Harvey, A. Wenzel, & S. Sprecher. (Eds.), *The handbook of sexuality in close relationships* (pp 311–345). Mahwah, NJ: Erlbaum.
- Heilman, M. E., & Saruwatari, L. R. (1979). When beauty is beastly: The effects of appearance

and sex on evaluations of job applicants for managerial and nonmanagerial jobs. Organizational Behaviour and Human Performance, 23, 360–372.

- Ilies, R., Arvey, R. D., & Bouchard, T. J. (2006). Darwinism, behavioural genetics, and organizational behaviour: A review and agenda for future research. *Journal of Organizational Behaviour*, 27, 121–141.
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97–117.
- Luxen, M. F., & Van de Vijver, F. J. R. (2006). Facial attractiveness, sexual selection, and personal selection: When evolved preferences matter. *Journal of Organizational Behaviour*, 27, 241–255.
- Mumford, M. D. (1983). Social comparison theory and the evaluation of peer evaluations: A review and some applied implications. *Personnel Psychology*, 36, 867–881.
- Nicholson, N. (1998). How hardwired is human behaviour? *Harvard Business Review*, 76, 134–147.
- Powell, G. N., & Butterfield, D. A. (1989). The 'good manager': Did androgyny fare better in the 1980's? Group & Organization Studies, 14, 216–233.
- Ragins, B. R., & Sundstrom, E. (1989). Gender and power in organizations. *Psychological Bulletin*, 105, 51–88.
- Rosen, B., & Jerdee, J. (1974). The influence of sex role stereotypes on personnel decisions. *Journal of Applied Psychology*, 59, 511–512.
- Salovey, P. (1991). Social comparison processes in envy and jealousy. In J. Suls & T. A.Wills (Eds.), *Social comparison: Contemporary theory and research* (pp. 261–285). Hillsdale NJ: Erlbaum.
- Schein, V. E. (1973). The relationship between sex role stereotypes and requisite management characteristics. *Journal of Applied Psychology*, 57, 95–100.
- Schmitt, B. H. (1988). Social comparison in romantic jealousy. Personality and Social Psychology Bulletin, 14, 374–387.
- Schmitt, D. P. (2005). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences*, 28, 247–311.
- Smith, R. H., & Kim, S. H. (2007). Comprehending envy. Psychological Bulletin, 133, 46-64.
- Swap, W. C., & Rubin, J. Z. (1983). Measurement of interpersonal orientation. Journal of Personality and Social Psychology, 44, 208–219.
- Vecchio, R. P. (1995). It's not easy being green: Jealousy and envy in the workplace. In G. R. Ferris (Ed.), *Research interpersonal and human resources management* (Vol. 13, pp. 201–244). Greenwich, CT: JAI Press.
- Vecchio, R. P. (2000). Negative emotion in the workplace: Employee jealousy and envy. International Journal of Stress Management, 7, 161–179.
- Walters, S., & Crawford, C. B. (1994). The importance of mate attraction for intrasexual competition in men and women. *Ethnology and Sociobiology*, 15, 5–30.
- White, G. L., & Mullen, P. E. (1989). *Jealousy: Theory, research and clinical strategies*. New York: Guilford.
- Van Yperen, N. W. (2003). Task interest and actual performance: The moderating effects of assigned and adopted purpose goals. *Journal of Personality and Social Psychology*, 85, 1006–1015.
- Zuckerman, M., & O'Loughlin, R. E. (2006). Self-enhancement by social comparison: A prospective analysis. *Personality and Social Psychology Bulletin*, 32, 751–760.