

SELF-PROMOTION VERSUS COMPETITOR DEROGATION: THE INFLUENCE OF SEX AND ROMANTIC RELATIONSHIP STATUS ON INTRASEXUAL COMPETITION STRATEGY SELECTION

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Abstract. In a series of two studies, we explored people's selection of self-promotion or competitor derogation when intrasexually competing for mates, as influenced by sex and romantic relationship involvement. In Study 1, student participants completed a forced-choice survey outlining six hypothetical competitive tactics. The findings indicated that self-promotion was chosen more often than competitor derogation, regardless of sex and current relationship involvement. In Study 2, we relied upon a community sample that completed a continuous measure that expanded upon the survey of Study 1. We found that women reported significantly more self-promotion than men, and men reported significantly more competitor derogation. Individuals who were romantically uninvolved and those who were dating reported higher levels of self-promotion and competitor derogation than those who were married or in a common-law relationship. Social desirability impacted on competitor derogation but not self-promotion. In contrast, self-ratings of physical attractiveness significantly positively correlated with both strategies. We discuss these findings using the conceptual framework of indirect aggression and intrasexual competition.

Keywords: intrasexual competition, sex differences, self-promotion, competitor derogation, interpersonal relationships

There has been a vast amount of research devoted to the study of people's preferences when it comes to romantic partners. However, there has been substantially less documentation of people's efforts to obtain these preferred mates. Using the conceptual framework of indirect aggression, we examine two competitive strategies for the purpose of obtaining mates.

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A link between aggression and competition has been proposed (e.g., SCHUSTER 1983), such that aggression, even if it is indirect aggression, is necessary for competition to occur. Indirect aggression refers to behaviors for which a perpetrator tries to cause harm while simultaneously attempting to make it appear as though there was no harmful intention (BJÖRKQVIST, LAGERSPETZ and KAUKAINEN 1992). Often, indirect aggression is used within the context of relationships, to damage or discredit someone's reputation, or for the purpose of group exclusion. It can encompass behaviors such as breaking confidences, criticizing someone's clothing, appearance or personality, trying to win others to one's side, shunning, excluding from the group, writing nasty notes, or spreading false stories and gossip (BJÖRKQVIST 1994). Females tend to use indirect aggression more than males, who tend to rely more on direct forms such as physical and verbal aggression (e.g., BJÖRKQVIST, ÖSTERMAN and LAGERSPETZ 1994).

Research on intrasexual competition has revealed that individuals primarily rely on two strategies when competing with same-sex rivals for access to potential mates, both of which are indirectly aggressive. The first, self-promotion, is the process of rendering oneself more attractive or appealing relative to one's rivals (BUSS 1988). Since self-promotion is performed in relation to rivals, and does not involve a direct altercation, it can be viewed as indirectly aggressive behavior. For example, one could enhance their appearance or personality in comparison to a rival, in order to seem superior. The second, competitor derogation, is defined as making rivals appear as less attractive or appealing relative to oneself (BUSS and DEDDEN 1990). Competitor derogation may in some instances be indirectly aggressive since the individual does not always confront rivals but instead hopes to diminish their attractiveness to a potential mate in a more circuitous way. For example, one may secretly make negative statements about a rival's sexual history or personality to a prospective mate. This said, competitor derogation may involve more directly aggressive tactics, such as bullying a rival (FISHER and COX, in review).

Although women use indirect aggression more than men, and hence have more potential to develop indirect competitive tactics, both sexes use self-promotion and competitor derogation. For example, in a series of studies on self-promotion as used to attract mates, BUSS (1988) found that men used tactics related to resource possession and display, whereas women altered their appearance. When presented with these tactics, participants judged men's display of resources as more effective than when performed by women, and alteration of appearance was more effective when performed by women than by men. These findings were largely replicated by WALTERS and CRAWFORD (1994) who framed the tasks in terms of self-promotion used during intrasexual competition for mates, rather than mate attraction.

A similar difference was observed for competitor derogation. BUSS and DEDDEN'S (1990) findings revealed that men derogate other men's financial resources, achievements and goals, as well as their rival's physical strength and athleticism. In contrast, women derogate other women's appearance, fidelity, and sexual history. They then examined the perceived effectiveness of these tactics, and obtained

analogous results, except for a lack of sex difference in the derogation of achievements, athleticism and appearance. In their third study, newlyweds self-reported their use of derogation tactics, as well as those used by their spouses. The only tactics that showed significant sex differences in their frequency of performance were men's derogation of a rivals' strength, and women calling a rival promiscuous or derogating her appearance. Examined together, the results of these three studies indicate that women tend to derogate other women in terms of their appearance, and men tend to derogate other men in terms of their physical strength, and to a lesser extent, their resources.

This pattern of sex-specific tactics is sensible, when viewed from an evolutionary perspective. Women, like females of other mammalian species, have faced different reproductive circumstances than men during evolutionary history (e.g., HRDY 1999; TRIVERS 1972). Men can potentially sire many children, and do not have to contribute to the care of children, although paternal protection and allocation of resources does improve the child's survivability (HILL and HURTADO 1996). In contrast, women have a lower ceiling on their reproductive potential; pregnancy and the months soon after birth involve a substantial investment in terms of energy and time (ELLISON 2001). Due to this differential in required reproductive effort, men's optimal reproductive strategy may be to seek as many matings as possible and invest little in any subsequent children, while women's optimal strategy may be to carefully seek a mate and invest heavily in her children. It is probable that these biologically based differences in reproductive strategy have influenced methods of competition. Men may compete for access to fertile women, whereas women may compete for access to men with sufficient resources for facilitating childcare (BUSS 1994). Moreover, the mate preference of the opposite-sex is the characteristic that becomes the mode of competition in same-sex confrontations (DARWIN 1871). That is, because women prefer men with resources, evolutionary theory posits that men should compete with respect to their resources. Analogously, because men prefer young, attractive and hence fertile mates, women should compete to appear youthful and maximally attractive.

In addition to documenting the sex-specific use of tactics for self-promotion and competitor derogation, research also indicates that the strategies are not equally effective. For example, the findings of SCHMITT's (2002) meta-analysis revealed that self-promotion is perceived as significantly more effective than competitor derogation for women in the realm of appearance. The difference in perceived effectiveness may be due, in part, to the context in which people assess these strategies. SCHMITT and BUSS (1996) explored this possibility in an earlier study and showed a relationship between the effectiveness of tactics for intrasexual competition and the specified temporal context regarding the desired length of the relationship (i.e., whether the intent was to obtain a short-term or a long-term relationship). They reasoned that, when seeking a short-term mate, both men and women emphasise the attractiveness of potential partners (BUSS and SCHMITT 1993). Furthermore, individuals seeking short-term relationships often express a more pronounced pref-

erence for a potential partner's attractiveness, as compared with individuals seeking long-term relationships (SIMPSON and GANGESTAD 1992). Thus, SCHMITT and BUSS (1996), using the tactics generated by BUSS (1988) and BUSS and DEDDEN (1990), asked one group of undergraduates to rate the effectiveness of the tactics for the purposes of self-promotion while another group rated their effectiveness when used for competitor derogation. Tactics related to attractiveness were judged to be significantly more effective in short-term than in long-term mating, and significantly more effective when used by women than by men. This result was obtained for both self-promotion and competitor derogation tactics.

Although these studies have elucidated many facets of intrasexual competition, they have not included any discussion of how one strategy is used in conjunction with the other. For example, in what situation does an individual choose self-promotion rather than competitor derogation? Previous research documents that women should compete in terms of attractiveness, whether it is self-promotion or competitor derogation, but fails to directly pit the two strategies against each other. That is, for example, given a situation involving attractiveness, when would women be more likely to choose self-promotion over competitor derogation?

SCHMITT and BUSS (1996; see also SCHMITT 2002), while not looking for the effect, found competitor derogation to be rated less effective than self-promotion and suggested that people who use derogation are perceived as mean-spirited, which may lower their acceptance as prospective mates. Furthermore, individuals who use competitor derogation may be discovered, and must therefore be prepared for their competitor's response. Individuals who self-promote could better disguise their intentions by claiming to be performing self-improvement and are thus less likely to evoke a direct response from rivals. It should be noted that the explanation offered by SCHMITT and BUSS (1996) refers to the effectiveness of competitor derogation, and not its frequency of usage, but it is presumable that the same explanation would apply. If competitor derogation is less effective, it should be used less frequently than self-promotion. Thus, *Hypothesis 1*: participants will self-promote more frequently than competitor derogate.

Furthermore, does one sex more heavily on a particular strategy? As mentioned, competitor derogation has the risk of the rival learning of the derogation and taking direct, aggressive retribution. Self-promotion does not incur the same risk. Women tend to avoid direct aggression in favour of more indirect strategies and that this aversion is not as apparent among men (BJÖRKQVIST, LAGERSPETZ and KAUKAINEN 1992; CAMPBELL 2002). Therefore, *Hypothesis 2*: women will prefer self-promotion compared to men, and men will prefer competitor derogation compared to women.

A third issue we investigated was the effect of an individual's current romantic relationship status on strategy use. FISHER, TRAN and VORACEK (2008) examined changes in facial attractiveness ratings as a function of competitor derogation and did not find any differences due to relationship status. However, previous research (e.g., HILL, RUBIN and PEPLAU 1976) has revealed that people searching for mates

often seek individuals who match themselves according to personality traits and values. In order to discover whether a prospective mate is well matched, uninvolved individuals may self-promote their interests in an effort to establish commonalities, and attempt to be seen as kind and desirable (as suggested by SCHMITT and BUSS 1996). Thus, *Hypothesis 3*: individuals who are not currently involved in romantic relationships will use self-promotion more than competitor derogation, and do so more than those in romantic relationships.

Note that our term “romantic relationship” simply means that the person is romantically involved in a dyad, and hence, includes a variety of relationship forms. Individuals who are romantically involved have secured a mate, at least for the short-term, and hence, self-promotion may not be as effective as competitor derogation. Self-promotion may be used to demonstrate commonalities with a prospective mate, but once the relationship is established, there is little need to continue to advertise one’s interests. Thus, self-promotion may lose effectiveness as partners become more aware of each other’s “true” (i.e., non-promoted) characteristics. For example, one may be less susceptible to self-promotion after seeing a partner in the shower, or dishevelled and ungroomed early in the morning upon waking. Instead, those in relationships might turn to competitor derogation to protect the relationship from potential infiltrators. Thus, *Hypothesis 4*: romantically involved individuals rely upon competitor derogation more than self-promotion, and do so more than uninvolved individuals.

STUDY 1

Methods

Participants. A total of 110 women (age in years, $M = 18.82$, $SD = 1.48$, range 18–26 years, median 18.05 years) and 59 men ($M = 19.03$, $SD = 1.84$, range 18–28 years, median 18.01 years) participated in this study. Participants were first year students solicited from a psychology department participant pool at a large university in Toronto, Canada, and, in return for their participation, they received a course credit. Since the study dealt with same-sex rivalry for opposite-sex mates, nine potential participants were excluded due to a self-reported non-heterosexual orientation. Of the 110 women, 61 were currently involved in a romantic relationship (duration, in weeks, $M = 77.69$, $SD = 69.94$). Similarly, of the 59 men, 25 were currently involved in romantic relationships ($M = 86.71$, $SD = 74.44$). Due to the high variability of relationship length, values were normalised via transformation into a z distribution, which revealed no significant sex difference (independent samples $t(81) = 0.52$, $p = \text{ns}$). Among the 49 women not involved in romantic relationships, 28 were seeking a mate and 21 were not. Among the 34 men not involved in romantic relationships, 26 were seeking a mate and 8 were not.

Measures. The Competitive Strategy Survey (CSS; see Appendix A for women's version) was designed such that respondents choose between the strategies of self-promotion or competitor derogation when placed in six hypothetical circumstances. It should be noted that the content of the items was grounded in the results of a separate preliminary study where a group of 144 participants were asked to state how they intrasexually competed for mates (FISHER AND COX, in review). Then, the most commonly occurring tactics were subjected to a qualitative, thematic grounded analysis and subsequently used to generate the statements used in this study. Also, to ensure validity, the statements only include tactics that were listed by both women and men, and that were deemed by three blind judges as fitting the definition of self-promotion or competitor derogation. For example, in the preliminary study, participants listed tactics related to attractiveness for both self-promotion and competitor derogation. Thus, one of the six statements in the current study pertains exclusively to attractiveness, whereby the participant chooses to self-promote her or his own attractiveness, or to derogue a rival's attractiveness. To make the items more realistic, two versions (one for women and one for men) of the survey were created. The two forms of the survey differed only in the use of pronouns (e.g., she vs. he), the sex of the potential mate and rival (e.g., woman vs. man), and for the appearance manipulation item, cosmetics were mentioned for women versus cologne for men.

The six items pertain to the following: health (e.g., drawing attention to the poor health and physical fitness of your rival, or how healthy and fit you appear), shared interests (e.g., pointing out your rival's differences in terms of interests, personalities and aspirations, or demonstrating commonalities), caring and helpful behavior (e.g., attempting to show that your rival is not caring, helpful, funny and interesting, or demonstrating how you possess these characteristics), promiscuity (e.g., describing your rival's sexual history as promiscuous, or stating your lack of sexual experience), appearance manipulation (e.g., bringing attention to flaws in your rival's appearance, or enhancing your appearance) and use of rumors (e.g., sharing a rumor that demonstrates undesirable qualities in your rival, or discussing your positive qualities). The items were counter-balanced, such that the strategies of competitor derogation or self-promotion were alternated to minimise order effects. The six items were elaborated into short statements to provide context and make the behaviors seem more realistic. The Cronbach's reliability of the CSS was moderate, $\alpha = .59$.

Procedure. Participants were tested individually by a female experimenter. After providing informed consent, they completed a demographic survey and CSS in a private room. When finished, they returned the surveys in a sealed envelope and were debriefed.

RESULTS

We performed three sets of analysis. First, we created a repeated measures Analysis of Variance (ANOVA) model to test whether strategy choice is influenced by sex or romantic relationship status. However, given the only moderate reliability of the CSS, we then used a Multiple Analysis of Variance (MANOVA) model to determine whether the sexes differ according to relationship involvement in their choice of strategy for the specific situations, as measured by the six individual items. Third, for the purpose of exploration, we conducted binomial probability testing to investigate item choice according to participant sex and relationship involvement. Although the latter does not provide a significant way to measure effects of relationship involvement and sex on strategy use, it enabled us to explore tendencies (i.e., using one of the two strategies) as they differ from chance with the assumption that the use of strategies for each item is independent.

Strategy Decision as Influenced by Participant Sex and Romantic Relationship Involvement. A repeated-measures ANOVA was performed on the summed score for each strategy (i.e., total number of times self-promotion or competitor derogation was selected), with the between-subjects measures of sex of participant and relationship involvement (uninvolved vs. involved in a romantic relationship) and the within-subject variable of strategy (self-promotion vs. competitor derogation). A main effect for strategy, $F(1,165) = 73.13, p < .001$ was found, as self-promotion ($M = 3.88, SD = 1.38$) was chosen significantly more often than competitor derogation ($M = 2.17, SD = 1.44$). There was no main effect for sex, $F(1,165) = 0.42, p = \text{ns}$, nor a main effect for relationship involvement, $F(1,165) = 0.42, p = \text{ns}$. The interaction between participant sex and relationship involvement was also not significant, $F(1,165) = 0.42, p = \text{ns}$.

Strategy Decision within Individual Items by Sex and Relationship Status. We then created a MANOVA model to examine strategy choice within the six areas (health, shared interests, caring and helpful behavior, promiscuity, appearance manipulation, and rumors) with the between-subjects variables of sex and relationship involvement. This analysis revealed a significant main effect for sex, $F(6,160) = 2.30, p = .04$, but no significant main effect for relationship involvement, $F(6,160) = 1.03, p = \text{ns}$, and no significant interaction for sex and relationship involvement, $F(6,160) = .80, p = \text{ns}$. The only item that revealed a significant sex difference was the rumor item, $F(1,165) = 7.23, p = .008$, such that men ($M = 1.72, SD = .45$) had higher self-promotion scores than women ($M = 1.51, SD = .50$).

Exploring Strategy Decision by Sex and Relationship Status. We used two-tailed binomial probability testing to examine, at chance level, which strategy people chose for each of the six items, according to their sex and relationship involvement. As can be seen in Table 1, women involved in romantic relationships chose competitor derogation significantly more frequently than self-promotion for the health item, $p < .01$. In contrast, they chose self-promotion significantly more often than competitor derogation for the items of caring and helpful behavior, and ap-

pearance manipulation. There were no significant differences for shared interests, promiscuity, and using rumors.

Table 1. Binomial probability results for selecting self promotion vs. competitor derogation according to participant sex and romantic relationship status (Study 1)

	<i>Tactic</i>	<i>Outcome</i>	<i>Percentages</i>		
			<i>SP</i>	<i>CD</i>	<i>p value</i>
<i>Women Involved</i>	Health	Competitor Derogation	31%	69%	.005
	Caring and Helpful	Self-promotion	92%	8%	.000
	Appearance Manipulation	Self-promotion	70%	30%	.002
		Draw	59%	41%	n.s.
		Draw	48%	52%	n.s.
		Draw	51%	49%	n.s.
	Shared Interests	Self-promotion	75%	25%	.001
<i>Women Not Involved</i>	Caring and Helpful	Self-promotion	90%	10%	.000
	Appearance Manipulation	Self-promotion	71%	29%	.004
		Draw	47%	53%	n.s.
		Draw	55%	45%	n.s.
	Health	Draw	51%	49%	n.s.
	Promiscuity	Self-promotion	92%	8%	.000
	Use of Rumors	Self-promotion	84%	16%	.001
<i>Men Involved</i>	Caring and Helpful	Self-promotion	68%	32%	.03
		Self-promotion	52%	48%	n.s.
		Self-promotion	60%	40%	n.s.
	Appearance Manipulation	Draw	56%	44%	n.s.
		Self-promotion	73%	27%	.009
		Self-promotion	97%	3%	.000
		Self-promotion	82%	18%	.000
<i>Men Not Involved</i>	Appearance Manipulation	Self-promotion	76%	24%	.003
		Self-promotion	53%	47%	n.s.
		Draw	41%	59%	n.s.
		Draw	53%	47%	n.s.

Romantically uninvolved women chose self-promotion significantly more often than competitor derogation for shared interests, caring and helpful behavior, and appearance manipulation. In contrast to involved women, there was no significant difference for the health item, as women selected competitor derogation approximately as often as self-promotion. Strategy choice for the items of promiscuity and rumors was also not significantly different.

Men involved in romantic relationships chose self-promotion significantly more frequently than competitor derogation for caring and helpful behavior, appearance manipulation and use of rumors. Strategy choice for the items concerning health, shared interests, and promiscuity did not reveal significant differences.

Finally, romantically uninvolved men chose self-promotion significantly more often than competitor derogation for shared interests, caring and helpful behavior, appearance manipulation and use of rumors. There was no significant difference in choice of strategy for the items of health or promiscuity.

DISCUSSION

Our results yielded support for Hypothesis 1, as people preferred self-promotion to competitor derogation, partial support for Hypothesis 3, in which uninvolved individuals self-promoted more than competitor derogated, and weak support for Hypothesis 4, where romantically involved individuals competitor derogate more than uninvolved individuals. There was no sex difference in strategy use, so we did not support Hypothesis 2, for which we has predicted women would self promote and men would competitor derogate.

Individuals preferred the strategy of self-promotion to competitor derogation for intrasexual competition. Although not a novel finding, what is new is that we showed this preference occurs within specific situations, such that everyone tries to seem caring and helpful instead of portraying a rival as the reverse, or by altering one's appearance instead of commenting negatively on a rival's appearance. Competitor derogation was selected over self-promotion only in one condition: involved women derogate the health of rivals (see *Table 1*). However, there no significant sex difference in overall strategy use, perhaps because self-promotion is potentially more effective than competitor derogation (SCHMITT 2002), and consequently should be used most of the time regardless of one's sex.

Although no main effect was found for relationship status, the binomial probabilities show participants who were romantically uninvolved said they would self-promote their common interests significantly more than they would derogate a competitor based on a lack of interests. Once in a romantic relationship, it may not be as useful for individuals to self-promote interests, but rather, to show that a rival has less in common; hence, both strategies were used but neither significantly more so than the other. Likewise, the binomial probabilities indicate romantically involved women were more likely to choose to competitor derogate than self-promote health. This difference presumably stems from the fact that health and physical fitness are linked to female fertility (e.g., MANSON et al. 1995). For those in relationships, a partner has already determined that they are fit, thus decreasing any need to self-promote for this purpose. Instead, to prevent a rival from infiltrating a relationship, potential rivals should be derogated to cast suspicion on their genetic fitness and fertility.

The overwhelming majority of participants chose self-promotion for the caring and helpful behavior item, which deserves comment. Recall that in this item, the participant who self-promotes will "go out of her/his way to try to seem caring, helpful, funny, and interesting." In his study on self-promotion, BUSS (1988) found

"acting nice" and "displaying humour" were two of the most effective tactics used for self-promotion and were not sex specific. Since this item encapsulates both acting nice (i.e., seeming to care and being helpful) as well as displaying humour, it is not surprising that self-promotion was the often preferred strategy and was immune to sex and relationship status influences.

A particularly interesting finding pertains to the item on the use of rumors. Regardless of their relationship status, men chose self-promotion for the rumor item more than women. Men may not use rumours to influence social standing, which means that the little that they do may be self-promotion. Furthermore, if women are the recipients of men's gossip, then men's self-promotion provides these women with positive information that they can spread to other women who may represent that man's potential future partners. If gossip is defined as "value-laden information about members of a social setting" (NOON and DELBRIDGE p. 24, 1993), then one can include self-talk as a form of gossip.

There were at least five limitations with respect to Study 1. We used a convenience sample of university students. The need for representative samples when exploring psychological phenomena has been highlighted by others (e.g., VORACEK 2001). Presumably, age, environment (e.g., urban vs. rural), or education may influence strategy use; we address this issue in Study 2.

A second limitation was that it depended on a forced-choice measure. By using a forced choice measure, we were able to determine people's choice of strategy in a given situation, but not the frequency of how often they actually do compete. Thus, in Study 2, we developed a Likert-type scale measure, with each item individually assessing the frequency of strategy use. As well, the forced-choice items do not permit participants the option of employing both strategies, as they might in highly competitive situations, or employing no strategy, as might have occurred if they did not find the hypothetical situations competitive.

Third, it is possible that people are reluctant to respond in a way that affirms that they engage in competitor derogation. If derogators are perceived as mean-spirited or less desirable as mates then people should be reluctant to admit they perform these behaviors. Thus, to explore this possibility, we included a social desirability measure in Study 2.

Fourth, we did not consider the effect of physical attractiveness as a potential influence on strategy use. FISHER and COX (2009) found that when an attractive women derogated other women's appearance, men decreased their ratings of the latter's attractiveness. This phenomenon did not hold for unattractive women. Thus, physical attractiveness might impact on one's overall tendency to compete, or to use some tactics. Moreover, attractiveness influences romantic relationship status, as attractive women are more likely to be married (JACKSON 1992). Self-perceived physical attractiveness was explored in Study 2.

Fifth, it may be necessary to distinguish people who are married or in a common-law romantic relationship from those who are dating or in casual, non-committed relationships. People who are dating may perceive themselves as having

not yet secured a long-term mate, so they may act very differently from those who are involved in long-term, stable relationships. We addressed this distinction in Study 2.

Study 2

We re-examined the four hypotheses of Study 1 with a community sample. That is, we investigated whether self-promotion is preferred to competitor derogation (hypothesis 1), and whether women prefer self-promotion more than men while men prefer competitor derogation more than women (hypothesis 2). We also studied whether romantically unininvolved individuals self-promote more than competitor derogue, and more than involved individuals (hypothesis 3), whereas romantically involved individuals competitor derogue more than self-promote, and more so than unininvolved individuals (hypothesis 4).

We then developed an additional hypothesis for Study 2. We proposed that because single and dating individuals have not yet secured a long-term mate, they self-promote in order to develop a relationship. Furthermore, they should actively derogate rivals to decrease any likelihood that a potential mate will establish a relationship with that rival instead of oneself. In contrast, married or common-law individuals have secured a long-term mate so the need to compete for mates should be reduced. *Hypothesis 5:* single and dating individuals will intrasexually compete, both in terms of self-promotion and competitor derogation, more than individuals who are married or in common-law relationships.

For exploratory purposes, we included two covariates: social desirability and self-rated physical attractiveness. Given the possibility that people who derogate competitors may be perceived as mean, social desirability was included. As mentioned, previous research (FISHER and COX 2009) suggests attractiveness might impact on strategy use, and hence, it was included.

Methods

Participants. A total of 96 women (age, in years $M = 39.25$, $SD = 14.46$, range 18–72 years, median 39 years) and 80 men ($M = 37.03$, $SD = 15.37$, range 18–76, median 30 years) from various communities within the province of Nova Scotia, Canada, were tested. Participants were solicited in various ways; approximately one-third were solicited at random from streets and main pedestrian through-fares, main transportation hubs, public parks, or other public outdoor areas in various urban, suburban and rural locations. About one-third were solicited through contacts within various social groups (e.g., pottery clubs, athletic groups, community centers, and community societies). Lastly, approximately one-third were solicited through a snowball technique, such that members of tested groups or clubs were asked if they knew of others who might participate. Income, religiosity, ethnicity,

and socio-economic status were diverse. A total of 44% of participants claimed to currently reside in an urban area, 21% in a suburban area, and 35% in a rural area. Participants had a mean formal education level of 16 years ($SD = 2.69$, range 8–24 years, median 15 years). Given the focus of the study, nine participants were excluded due to a self-reported non-heterosexual orientation.

With respect to relationship status, 66 women were married or common-law (length of relationship, in weeks, $M = 204.23$, $SD = 161.61$), 19 were dating (none reported dating multiple people and all responded dating one person only; $M = 44.63$, $SD = 72.60$ weeks) and 11 were single (excluding two who were widows and five who were divorced). Similarly, 46 men were married or common-law ($M = 213.47$, $SD = 164.96$), 16 were dating (two of whom reported dating multiple people, 14 dating one person only; latter's length of dating, $M = 27.05$, $SD = 18.37$ weeks), and 18 were single (excluding 4 who were divorced). An individual samples *t*-test on normalized *z* transformed values showed no significant sex differences in the length of time dating ($t(35) = 1.01$, $p = \text{ns}$) or in the time married or common-law ($t(90) = 0.13$, $p = \text{ns}$).

Women rated their physical attractiveness as $M = 4.70$ ($SD = .69$) and men as $M = 4.74$ ($SD = .79$), using a scale of 1 (extremely unattractive to 7 (extremely attractive). There was no significant sex difference in self-perceived ratings, $t(172) = .32$, $p = \text{ns}$.

Measures. We included two measures; the CROWNE and MARLOWE Social Desirability Scale (CROWNE and MARLOWE 1960; Cronbach's $\alpha = .74$) and the Competitive Behaviors Survey (CBS; Cronbach's $\alpha = .69$). The CBS was composed of 12 Likert-style questions that were designed to capture how frequently a participant performed a behavior, with 1 representing "never or very rarely," 2 representing "less than once a week," 3 representing "once or twice a week," 4 representing "three to four times a week," 5 representing "five to six times a week," 6 representing "daily" and 7 representing "more than once per day." There were six self-promotion questions: how often the participant had tried to improve their appearance (e.g., dieted, dressed well, whitened teeth), attempted to become more physically fit, made an effort to appear more kind, acted flirtatious, attempted to sexualize appearance (e.g., wear cologne or form fitting clothing), or attempted to appear trendy or fashionable. Note that these items include overlapping areas of exploration to those in Study 1, but with the addition of flirting behavior as a self-promotion tactic. We realized after Study 1 that flirting could be conceived as a way to draw attention to oneself, and to allow for an opportunity to further promote one's attributes. We also included physical fitness and improved appearance as distinct items, given that they involve very different types of activity (e.g., exercise and athleticism vs. the application of cosmetics).

Six questions were used to ascertain participant's competitor derogation activities. The competitor derogation items included: how often the participant had tried to spread a negative rumor about a rival, criticized a rival's appearance, or called a rival promiscuous. Compared to the survey in Study 1, here we also included dero-

gation tactics of criticizing a rival's intelligence, financial status or achievement. Given that men tend to intrasexually compete with respect to financial status and achievement (e.g., BUSS 1988; 1994), we included these dimensions in the current survey. Additionally, intelligence had been raised as an important attribute for competition (FISHER and COX, *in review*), but we suspected that many people would not self-promote their intelligence directly, and hence, the forced-choice format in Study 1 did not allow for the inclusion of this characteristic. The competitor derogation items were counter-balanced in presentation with those for self-promotion. Note that the content for all questions was obtained using the same procedure that was used to develop the statements used in Study 1, such that the items described behaviors that are performed by both women and men.

Procedures. Upon establishing interest, a female researcher provided individuals with an informed consent form, and then with the surveys. All participants completed the materials in private by sitting alone in a quiet location. Once completed, the participant placed the surveys in a sealed envelope, returned it to the researcher, and was debriefed.

RESULTS

Hypothesis 1 was supported by a paired-samples *t*-test that revealed that the mean score for self-promotion items ($M = 2.70$, $SD = 0.92$) was significantly higher than the mean score on the competitor derogation items ($M = 1.60$, $SD = 0.55$, $t(175) = 15.21$, $p < .000$).

To test our remaining hypotheses, we conducted a MANOVA with the mean score on the self-promotion items and the mean score on the competitor derogation items as the dependent variables, participant's sex and relationship status (single, dating, or common-law/married) as the independent variables, and mean social desirability score and self-rated physical attractiveness as the covariates. The main effect of sex ($F(1,166) = 10.47$, $p < .000$), relationship status ($F(2,166) = 4.40$, $p = .002$), social desirability ($F(1,166) = 3.07$, $p = .04$), and attractiveness ($F(1,166) = 7.81$, $p = .001$), were significant, but the interaction between sex and relationship status was not ($F(2,166) = 0.75$, $p = \text{ns}$).

Figure 1 shows that hypothesis 2 was supported; women reported higher levels of self-promotion than men ($M = 2.92$, $SD = 0.90$ vs. $M = 2.43$, $SD = 0.86$), whereas men reported higher levels of competitor derogation than women ($M = 1.69$, $SD = 0.58$ vs. $M = 1.53$, $SD = 0.51$).

With respect to romantic relationship status (hypotheses 3 and 4), individuals who were in dating relationships had the highest levels of self-promotion and competitor derogation. Pair-wise comparisons indicated that, for self-promotion, single individuals were not significantly different than those who were dating ($M = 2.86$, $SD = 0.78$ vs. $M = 3.05$, $SD = 1.08$, respectively, $p = \text{ns}$), but were significantly different to married or common-law individuals ($M = 2.55$, $SD = 0.86$, $p = .03$). Dating individuals also significantly self-promoted more than married or common-law in-

dividuals ($p = .004$). The same pattern emerged for competitor derogation; single and dating individuals did not significantly differ ($M = 1.77$, $SD = 0.62$ vs. $M = 1.83$, $SD = 0.57$, respectively, $p = \text{ns}$), but single individuals significantly differed from married or common-law individuals ($M = 1.49$, $SD = 0.49$, $p = .04$), as did dating individuals ($p = .002$).

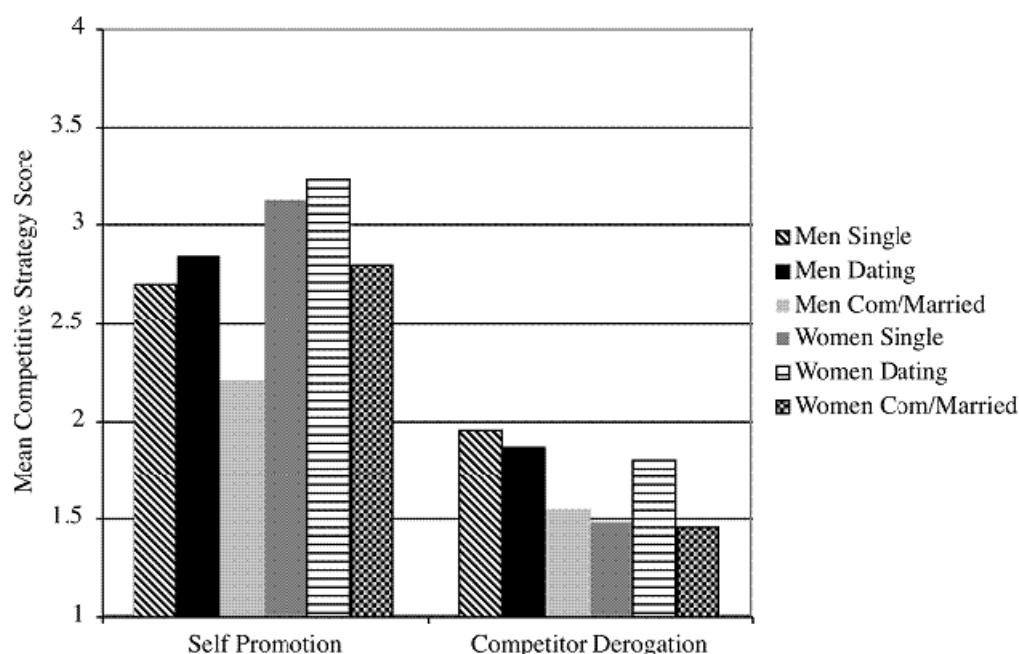


Figure 1. Mean overall strategy scores for the summed self-promotion versus summed competition derogation items, with 1 representing never or rarely and 7 representing more than once daily. Women rely significantly more on self-promotion than men, and men rely significantly more on competitor derogation than women. Married and common-law individuals were found to compete less than single or dating individuals, regardless of strategy type. There were no significant differences between single or dating individuals for either strategy type. war in Slovenia. *Human Reproduction*, 17, 3173–3177.

The MANOVA also revealed that social desirability significantly interacted with competitor derogation ($F(1,166) = 5.91$, $p = .01$) but not for self-promotion ($F(1,166) = 0.03$, $p = \text{ns}$). Self-rated physical attractiveness interacted significantly both with self-promotion ($F(1,166) = 14.14$, $p = .000$) and competitor derogation ($F(1,166) = 4.31$, $p = .04$). Self-rated physical attractiveness was significantly positively correlated with the two strategies; self-promotion $r(174) = .27$, $p < .000$ and competitor derogation $r(174) = .20$, $p < .01$.

DISCUSSION

As found in Study 1, people rely more upon self-promotion than competitor derogation for intrasexual competition, again supporting hypothesis 1. Furthermore, as we had initially predicted with hypothesis 2, the findings of Study 2 reveal that women chose self-promotion significantly more often than men, and that men to choose competitor derogation significantly more often. We did not find this result in Study 1, perhaps because of sample characteristics, or the form of the measure. In Study 1, participants completed a forced choice for strategy use, whereas in Study 2, they were presented with continuous measures. Thus, the difference could stem from the way we collected the data, the wording of the items, or reflect women's and men's preferences for one strategy in reference to the other strategy, rather than in reference to the opposite sex.

We again supported hypothesis three, in that romantically uninvolved individuals would choose self-promotion more often than those involved in relationships, but the results of Study 2 are far more convincing than those of Study 1, for which only partial support was obtained. In Study 1, we simply divided participants into romantically involved or uninvolved groups, whereas Study 2 relied on the distinction of those who are dating but not married or in a common-law relationship. It is possible that the effects of Study 1 were significantly affected by the inclusion of dating individuals with those in long-term relationships. Unlike Study 1 in which we obtained weak support, the findings of Study 2 do not support hypothesis 4, in which we had predicted romantically involved individuals would competitor derogate more than self promote, and more so than uninvolved individuals. Individuals in dating relationships were equivalent in their self-promotion and competitor derogation to uninvolved individuals, but significantly different from those in married or common-law relationships. These results clearly demonstrate the value of investigating effects specific to dating as opposed to married or common-law individuals. Regardless, the results replicate, for the most part, the findings of Study 1.

We obtained support for hypothesis 5, which was new to Study 2, as single and dating individuals use self-promotion and competitor derogation more than married or common-law individuals. There are many differences in dating relationships as compared to marital relationships. People tend to have lower commitment in dating relationships than in marital relationships (EDIN, KEFALAS and REED 2004), and may be more likely to deceive potential partners about their level of commitment (TOOKE and CAMIRE 1991). Past research has established that extradyadic romantic relationships, whether they are primarily emotional or sexual, occur more frequently in dating than in marital relationships (WIEDERMAN and HURD 1999) and are often viewed less negatively (SHEPPARD, NELSON and ANDREOLI-MATHIE 1995). ALLEN and BAUCOM (2006) found dating individuals, as compared to married individuals, had lower concern with respect to hurting their romantic partner, and less fear of being negatively judged by others. They also found that married individuals report higher levels of love and intimacy than dating individuals.

When it comes to intrasexual competition, one should expect that the form of the romantic relationship effects strategy use. Married or common-law individuals have secured a long-term mate and can allocate their efforts elsewhere, such as towards the relationship itself, or towards children, careers, and other pursuits. Single individuals should compete with others for access to mates by self-promotion and competitor derogation of rivals, a benefit that is shared with those in dating relationships. Our results support this contention, as we found minimal differences in competitive behavior between single and dating participants. These results further suggest that strategy use might shift in conjunction with relationship status. The results indicate that simply being in a relationship (i.e., dating) is insufficient to change one's amount of intrasexual competition, but forming a long-term relationship (i.e., by common-law or marriage) is perhaps sufficient to decrease one's performance of intrasexually competitive acts.

We explored social desirability and found it significantly related to competitor derogation but not to self-promotion. This result provides some foundation for SCHMITT and BUSS' (1996) contention that people do not competitor derogate as often as they self-promote because they will be viewed negatively. CROWNE and MARLOWE'S (1960) social desirability scale measures one's aspirations of creating a favorable impression, and using competitor derogation could significantly decrease the likelihood of such an impression forming.

We also examined self-ratings of physical attractiveness and found it was positively related to both self-promotion and competitor derogation. This finding extends past research that found that attractiveness influences potential mates' views of rivals' appearance (FISHER and COX 2009) to include a wider variety of tactics. Simply put, perhaps those who believe they are attractive are more prone to competing, or perhaps they seek out higher quality mates, which necessitates increased competition. The latter seems improbable, given that people tend to seek mates with equivalent mate values (see FISHER et al. 2009, for a review).

General Discussion

The two studies presented here add further support to previous research that shows self-promotion is used more frequently than competitor derogation (e.g., SCHMITT 2002). The current research adds substantially to this literature by elucidating the effects of sex and romantic relationship status on strategy choice, with initial exploratory inroads on the influence of social desirability and physical attractiveness.

Both studies show individuals choose self-promotion more than competitor derogation in a variety of hypothetical situational contexts. The reliance on self-promotion instead of competitor derogation may stem from differences in prerequisite knowledge or social desirability. Unlike competitor derogation, self-promotion does not require one to have any information about rivals. Although people may lie about their rivals' qualities, and presumably lie more frequently about characteris-

tics that are not immediately confirmed through observation, data on gossip suggests that people attempt to disseminate only accurate information (HESS and HAGEN 2006). Moreover, if one were to lie and derogate a rival by saying, for example, that she is sexually promiscuous, there is a risk that one's mate is seeking these qualities.

Social desirability is another possible explanation for people's preference for self-promotion. Although bragging about oneself may be rude, drawing negative attention to a rival's qualities could be worse. Hence, in the majority of daily situations, the socially desirable response may be self-promotion. Instead, if we had observed interactions at a downtown night-club, listened to women talk about other women in the night-club's washroom, and watched men vie for women's attention at the bar or on dance floor, competitor derogation may have been the more frequently documented strategy.

Likewise, the studies presented here rest on the assumption that people have some awareness of the function of their behavior. For example, in Study 1, participants were asked if they point out shared interests, aspirations or personality characteristics when their mate says something positive about a rival. Although people might illuminate similarities with a potential mate, they may not recognize that they are doing so in response to a positive comment about a rival and hence, misrepresent their choice of strategy in Study 1 or under-report the frequency of the behavior in Study 2.

Single individuals chose self-promotion to highlight their shared interests, personality, and aspirations to potential mates. This use of self-promotion was not apparent for individuals involved in romantic relationships, as there was no significant difference in the frequency of use for it or for competitor derogation. This reliance on shared interests as a way of establishing an enduring romantic relationship by single individuals is supported by the literature. For example, RYTTING (1992) asked participants to describe their ideal mates and discovered one very important criterion was similarity. People seek mates who mirror their political, social and familial values, ethnicity and religiosity, intelligence, extraversion, agreeableness, and conscientiousness (BUSS 1994). This preference for similarity is not without good cause, as dissimilarity often results in the dissolution of the relationship (HILL, RUBIN and PEPLAU 1976).

While we have shown that men are more likely to choose to competitor derogate, and women to self-promote, this finding could be partly linked to the measures we used. It is possible that the situations described in the items are more readily addressed by one strategy, or more salient to one sex than the other. For example, the items that deal with appearance are potentially easier to manipulate with self-promotion, and may be of particular importance for women. Men highly value a potential mates' attractiveness (e.g., BUSS 1994) and attractiveness is important for women's intrasexual competition (FISHER 2004). While both men and women will manipulate their appearance for self-promotion, and will derogate the attractiveness

of rivals (FISHER and COX in review), it can be argued that this issue is more critical for women.

The current research is limited by the use of self-report and the use of hypothetical scenarios. Further study is needed to examine the accuracy of these self-reported perceptions, and to collect data that does not rely upon imagined situations. One could ask people about other's behavior, but others may recall behavior that was socially undesirable, such as acts involving competitor derogation, more than behavior that was more banal, such as acts of self-promotion. Additionally, one could perform an ethological study of behaviors that might fall within these categories, but given the indirect nature of some of the tactics, these would be difficult observations to collect.

In Study 2, we briefly explored the influence of social desirability and physical attractiveness on strategy use. The results were promising, in that both interacted with strategy use in a logical manner. However, researchers must now explore these variables more carefully and examine the extent to which they have influence on intrasexual competition. For example, are people who perceive themselves to be physically attractive more likely to use it as a tool in their competitive interactions for mates?

Finally, future research could address the role of commitment and satisfaction in romantic relationships as it affects intrasexual competition. Although individuals may be involved in romantic relationships, they may or may not be highly committed to their mates, nor feeling particularly satisfied. If someone is not highly committed or satisfied, they may not feel it is necessary to attempt to maintain their relationships, and will minimally use intrasexual competitive strategies. Alternatively, they may use self-promotion in the hopes of finding a new relationships, and not be concerned enough about potential rivals to employ competitor derogation, even though they are in a romantic relationship.

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APPENDIX A**Competitive Strategy Survey (Women's Version)**

Please think of a serious or committed romantic relationship that you have had in the past, that you currently have, or that you would like to have. Imagine that you discover that the man with whom you have been seriously involved became the target of interest of another woman, who we call "the rival." What would you do? Select one action that represents your most likely behavior. Please be honest: your responses will be treated anonymously.

Health:

1. a) Sometimes when you see the man you're involved with, you say something to him about your own attractiveness, how fit and healthy you are looking.

OR

- b) Sometimes when you see the man you're involved with, you say something to him about your rival's unattractiveness, how unfit and unhealthy she is looking.

Shared Interests:

2. a) When he says something positive about your rival, you point out that they have no shared interests, and are really dissimilar in their personalities or aspirations.

OR

- b) When he says something positive about your rival, you point out that you and he have many shared interests, and are really similar in your personality or aspirations.

Caring and Helpful Behavior:

3. a) At a small gathering in which you, your rival, and the man you are involved with attends, you go out of your way to try to seem caring, helpful, funny and interesting.

OR

- b) At a small gathering in which you, your rival, and the man you are involved with attends, you go out of your way to try to show your rival is uncaring, unhelpful, not funny and dull.

Promiscuity:

4. a) During a conversation with him about your rival, you casually bring up her past, that she's had sex with many men, that she's had terrible relationships in the past, or leads men on

OR

- b) During a conversation with him about your rival, you casually bring up your past, that you haven't had sex with many men, that you don't play games or lead men on

Appearance Manipulation:

5. a) When you are preparing to go to a party with him, you spend considerable time applying cosmetics, styling your hair, and selecting a figure-enhancing outfit

OR

- b) When you go to a party with him, you wear what you like and point out that your rival is wearing too much makeup so that she looks unnatural, her hair is messy, and she is badly dressed.

Use of Rumor:

6. a) During a phone call, you casually say, "guess what I heard!" and tell him a nasty rumor concerning a rival, so that he might change his opinion of her and instead prefer you.

OR

- b) During a phone call, you casually raise some of your good qualities so that he might change his opinion of your rival and instead prefer you.