Your Reputation Precedes You: Women's Competition Through Social Information

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YOUR REPUTATION PRECEDES YOU:
WOMEN’S COMPETITION THROUGH
SOCIAL INFORMATION

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ABSTRACT

Research suggests that women gossip more often than men. We, along with previous researchers, argue that this exchange of information may be a means by which women compete for mates. That is, women use social information to besmirch the reputations and long-term mating potential of rivals. Because men value chastity in their long-term partners and this trait is invisible, women’s sexual reputations may not only influence their long-term mate value, but may also be vulnerable to defamation. Furthermore, Hess and Hagen (2009) have argued that women may use their same-sex friendships to help them in this reputational competition. If women compete with one another using social information, their psychologies and friendship patterns should be shaped for this informational battle at three stages: defense, reconnaissance, and dissemination. Across four online studies we tested predictions stemming from this informational warfare framework. In Studies 1 and 2, we evaluated whether women’s interests, worries, and friendship expectations are better suited than men’s for reputational competition. In Studies 3 and 4, we experimentally manipulated the mating threat level of a target woman and found that women relayed reputationally relevant information about her strategically. Specifically, women passed on more negative and less positive social information about a hypothetical a woman who flirted with their mates (compared to one who did not) and an attractive woman (compared to a less attractive woman). That is, women hurt more than helped the reputations of other women who were more formidable mating competitors compared to less. Furthermore, highly competitive women were more informationally aggressive than less competitive women. These findings support the contention that women compete with one another using social information and reputational attacks.
INTRODUCTION

“And you know she cheats on Aaron? …. I never told anybody that because I am SUCH a good friend!”

- Gretchen Wieners referring to Regina George, Mean Girls

In the popular teen comedy Mean Girls, Gretchen, one of the popular girls, has an emotional breakdown brought one by the neglect of her former best friend and the most popular girl in school, Regina. In response, Gretchen tearfully reveals Regina’s secret dalliances to Cady, the film’s female protagonist. Gretchen insinuates that not previously divulging this secret information signifies the level of loyalty she had to her friend and that this divulgence is only appropriate now because of Regina’s obvious mistreatment. Why does Gretchen respond to Regina’s neglect in this way? Why spread gossip about Regina’s sexual disloyalty rather than directly confronting or physically assaulting her? Is this scene anything more than a perpetuation of the misguided, but common assumption that women maliciously gossip about one another? In this manuscript, we will argue that this example of women’s gossip instead sheds light onto a pervasive and systematic pattern of women’s intrasexual competition.

The main premise of the film above and common belief presume women gossip more frequently than do men. This assumption is not a modern invention, as exemplified by the ancient Chinese proverb, “the tongue is the sword of a woman, and she never lets it become rusty.” Empirical investigations suggest that this belief is not ill-founded, but grounded in reality. Across cultures, women evince higher tendencies to gossip than men (Nevo, Nevo, Derech-Zehavi, 1993; Watson, 2012). Women report a greater willingness to share gossip with their same-sex friends than do men (McAndrew, Bell, & Garcia, 2007). Young girls report witnessing more gossip than do young boys (Coyne, Archer, & Eslea, 2006). Observations of spontaneous conversations support this pattern, with women’s involving more gossip,
particularly negative gossip and gossip about close friends than men’s conversations (Leaper & Holliday, 1995; Levin & Arluke, 1985). If women do indeed engage in gossip more than men, why?

Researchers have argued that women’s propensity for gossip is not frivolous, but rather a form of intrasexual mating competition (Campbell, 2004; Hess & Hagen, 2006a, 2006b, 2009; McAndrew, 2014). That is, women gather and exchange social information, which can be used to harm the reputations (and ultimately, mating prospects) of their same-sex rivals. Although surely men could also benefit from harming the reputations of their same-sex rivals, men’s reputations may be harder to impugn than women’s. Women may be more likely than men to compete with one another using social information and reputational attacks because women’s reputations are more vulnerable to defamation than men’s.

Across cultures, men exhibit a greater preference for chastity and sexual fidelity in their long-term mating partners than do women (Buss, 1989; Buss & Schmitt, 1993). Men perceive women who are sexually promiscuous as lower in marriage desirability than women who are sexually restrictive (Oliver & Sedikides, 1992). Furthermore, even in societies in which families choose marriage partners, parents exhibit a greater preference for chastity when selecting their daughters-in-law compared to sons-in-law (Apostolou, 2010). If men (and their parents) place a greater emphasis on sexual restraint when making long-term mating decisions than do women (and their parents), then a woman’s sexual reputation will be more consequential for her desirability as a long-term mate than a man’s. Consistent with this contention, parents are more upset about their daughters’ sexual activity and try to control their daughters’ sexual behavior more than their sons’ (Perilloux, Fleischman, & Buss, 2008). Although these concerns may serve other functions (e.g., protecting against rape, preventing unwanted pregnancy), this finding is
suggestive that parents may attempt to preclude damage to their daughters’ value on the mating market. And indeed, across history, the mating value of women’s sexual purity was made explicit, with dowries paid to the bride’s family under the condition that the bride was a virgin (Hughes, 1978).

However, women’s sexual proclivities are not immediately perceptible and therefore must be assessed indirectly. That is, a man cannot discern a woman’s chastity simply by looking at her and therefore must rely upon the observations and opinions of others. This concealed nature of sexual restraint (or openness) makes it vulnerable to attack, as noted by Campbell (2004). Sexual chastity is a negative state, or the absence of engaging in behavior. Therefore, sexual chastity or virginity is extremely difficult to demonstrate. For example, if a woman’s rival accused her of promiscuity, how could she prove the rival’s claim inaccurate? In theory, she could line up every single man in the population and ask him whether they had sex. However, this is obviously unrealistic. Therefore, women’s sexual proclivities, although influential for their value as a long-term mate, are susceptible to slander by others.

Meanwhile, men’s mate value does not face this vulnerability to the same degree as women’s. Across cultures, women show a stronger mating preference for physical strength, dominance, courage, and access to resources in long-term partners than do men (Buss, 1989; Buss & Schmitt, 1993). However, these traits, unlike chastity, are relatively easily demonstrable. As an example, if a man is accused of being a coward, he can undergo a risky feat and prove his accuser incorrect. A man can also display both his dominance and strength through his traits and behaviors (e.g., musculature, facial structure, physical fighting, lifting heavy objects, verbal commands; Puts, 2010). And indeed, research finds that people perceive manhood as something that can be earned or demonstrated, and when men’s manhood is questioned, men subsequently
increase their risk taking as well as their aggressive thoughts and behaviors (Vandello & Bosson, 2013). Men’s access to resources can also be conveyed relatively easily through costly displays and material goods (Sundie et al., 2011). Therefore, because the traits that heavily influence men’s value as long-term mates are relatively manifest and easy to confirm directly, men’s reputations are less vulnerable to attack than women’s.

If women’s reputations are consequential for their value on the mating market, then women would benefit by maintaining a better reputation than their same-sex rivals. That is, all else being equal, women with pristine reputations would be more likely to be chosen as long-term mates and more likely to be chosen by the most desirable men than women with sullied reputations (Buss & Schmitt, 1993). And indeed, empirical investigations suggest that men’s attraction to women is affected by the opinions of others. Fisher and Cox (2009) for example, found that men (but not women) decreased their attractiveness ratings of women if the women’s photos were accompanied by a negative comment made by another woman. Men’s ratings were more influenced if an attractive woman ostensibly made the negative comment than if an unattractive woman made the comment, which suggests some women’s gossip may be more influential to men’s opinions than others’. Kenrick and Gutieres (1980) found that men’s (and women’s) attractiveness ratings of women’s photos were affected by both the positive and negative verbal comments of male confederates. Although these studies are suggestive, future research should investigate the extent to which men rely upon others’ opinions of potential long-term partners when forming their mating decisions.

Because women’s reputations are based on invisible traits (and are vulnerable to defamation), then women could have gained a competitive advantage on the mating market by besmirching the reputations of their most threatening rivals. Indeed, derogating a rival’s sexual
exclusivity or fidelity is judged as a highly effective in harming a woman’s desirability as a long-term (but not a short-term) mate. And, this tactic is rated as more effective in harming a woman’s long-term mating prospects than a man’s (Schmitt & Buss, 1996). That is, women who questioned their rivals’ chastity could harm rivals’ long-term mating potential, and therefore gain a relative mating advantage. To provide an example, imagine a stunningly beautiful woman joins your social group. Your appearance pales in comparison to hers and many of the men in your group are much more desirous of her than they are of you. How could you outcompete her? Sure, you can try to improve your physical appearance, but these efforts can only do so much. However, say you discover that she has had many previous sexual partners. If men prefer chastity in their long-term mates, then this information has the potential to decrease her long-term mating appeal. If you let this information slip, then soon enough her reputation would be damaged. And although men still might find her desirable as a short-term mate, they do not find her as desirable as a potential wife. (Schmitt & Buss, 1996). Relatively then, you have gained a mating advantage.

This example demonstrates how women could use social information to harm the reputations of their rivals, granting themselves a relative advantage in competition to be chosen as a long-term mate. Consistent with the contention that women compete in this way, women experience more guilt and anxiety in response to their sexuality and are more reluctant than men to disclose their sexual experiences to others (Carns, 1973; Oliver & Hyde, 1993), suggesting that this information could harm women more than it could harm men. Research on gossip suggests that women should be cautious about sharing their sexual information because other women are highly interested in accessing it. Compared to men, women are more interested in gossip about their same-sex peers and they are particularly interested in other women’s sexual
behaviors (McAndrew & Milenkovic, 2002). Furthermore, women are more likely to remember gossip about same-sex individuals, suggesting they do not forget this information once they discover it (DeBacker, Nelissen, & Fisher, 2007). And, research suggests that this information, should it be discovered and exposed, is more harmful to women’s long-term mating prospects than men’s. Across cultures, men exhibit a preference for chastity in their long-term mates and labeling a woman promiscuous or unfaithful is perceived to hurt her long-term mating desirability more than it hurts a man’s (Buss, 1989; Buss & Dedden, 1990; Schmitt & Buss, 1996).

If it is true that women can gain a relative mating advantage by using social information to harm the reputations of their rivals, then women should compete to discover, extract, and propagate this information (Hess & Hagen, 2009). Women who were successful at locating and extracting personal information about rivals could disseminate this information strategically, harming the reputations of their rivals, and thereby hurting competitors’ ability to attract the most desirable mates. That is, women who used social information strategically would have possessed relatively better reputations than their rivals, outcompeting them for the best mates and social partners. However, if other women are also seeking out this social information, this creates an incentive for women to protect their own reputations from slander. Women who monitored their reputations and defended them against attack would have better reputations on average than women who had no such concerns.

Furthermore, Hess and Hagen (2009) contend that women could have used their same-sex friendships to help them in this informational competition. That is, women could use their friends as allies, helping them to gain access to damaging information about rivals, disseminate this information about rivals, and defend their own reputations against others who attempt to
tarnish them. Women who extracted social information from their same-sex friends would possess more information, which could be used strategically to harm the reputations of rivals than would women who did not use their friends as sources of social information. Also, women who expected their friends to defend their reputation against the attacks by others would have better reputations on average than women who did not use their friends for reputational defense. Therefore, women who used their same-sex friends as allies in informational warfare would have outcompeted women who faced the battle alone.

Although the sex differences in gossip suggest that women exchange social information with one another, empirical support for women’s strategic and competitive use of this social information is lacking. Researchers are beginning to explore the nature and tactics of informational warfare (Hess & Hagen 2006a, 2006b, 2009). Also, some research finds that both men and women are more interested in and more likely to pass along negative gossip about same-sex rivals than allies (McAndrew, Bell, & Garcia, 2007; McAndrew & Milenkovic, 2002). However, if the logic outlined above is sound and women could better outcompete their same-sex rivals using reputationally relevant social information than men because women’s reputations are more vulnerable to attack than men’s, then this competition should be amplified among women compared to men and have widespread consequences for women’s psychological proclivities and social behaviors. That is, if women compete using social information and reputational attacks, they should be specialized for this style of competition because they have to outcompete other women who also use these tactics. Therefore, this specialization should manifest itself in women’s psychologies, aiding them at each stage of informational battle: informational defense, informational reconnaissance, and informational dissemination.
Informational Defense

If women’s reputations affect their likelihood of attracting long-term mating partners, women would be motivated to monitor and maintain the quality of their reputations. Because women’s mate values depend more heavily upon invisible and difficult to confirm traits (e.g., chastity) compared to men’s (e.g., strength), women’s reputations will be more vulnerable to attack than men’s. Therefore, our first prediction is that women will be more concerned with others’ opinions of them compared to men. These worries would be functional insofar as they motivate women to avoid engaging in behaviors that hurt their reputations or motivate women to engage in behaviors that insulate their reputations against attacks.

One way women can proactively ward off attacks is by using their friends to help them uphold and defend their reputations. Specifically, women can use their friends to discourage or refute slander by rivals. Women who expect this defense from their same-sex friends will choose more loyal friends and suffer fewer reputational blows on average than women who have lower or no such expectations. The same logic would follow for women’s disclosed personal information. If women exchange personal information with their friends, this shared information can later be used against them. Thus, another defensive strategy women can employ is to demand that their friends do not spread their disclosed personal information or attempt to tarnish their reputations (i.e., talk about them behind their backs). These expectations would both motivate women to select loyal same-sex friends and discourage friends from gossiping about them, thereby reducing the likelihood of a tarnished reputation. Because men’s reputations are less vulnerable to defamation than women’s, men do not experience the same pressure to use their same-sex friendships for informational defense. Therefore, our second prediction is that women
will shower higher demands for reputation defense and informational loyalty in their same-sex friendships compared to men.

As with any competition, there is an opportunity for defense and offense. Women who only concern themselves with defending their own reputations and ignore those of rivals will be outcompeted by women who also smear the reputations of rivals. Damaging another’s reputation requires both successful information extraction and dissemination.

Informational Reconnaissance

On average, many of the traits that affect women’s mate value (e.g., chastity, sexual loyalty) are less manifest and demonstrable than are many of the traits that affect men’s mate value (e.g., dominance, courage). To gain information about the traits of potential mates, men must instead rely upon indirect sources including the opinions and reports of others. If men value this social information, women can outcompete rivals on the mating market by seeking out rivals’ damaging personal information. Women who are skilled at extracting reputationally harming information about rivals will outcompete other women who are less able to or less interested in uncovering such information. And because men’s mate value is more largely based on visible traits, men should be less motivated to seek out personal information about their same-sex competitors than women. Our third main prediction is that women, compared to men, will be more interested in the personal lives of others. This interest and curiosity would be functional insofar as it motivates women to glean the information that would affect the reputations of their competitors.

An apparent inconsistency in logic should be addressed. Although men use women’s personal information to inform their mating decisions, women should still be more motivated to seek it out. This is because women’s, more than men’s, relative long-term mate value depends
upon this personal information (Schmitt & Buss, 1996). Women who are highly motivated to seek out this information can gain an advantage over their competitors on the mating market. Men, on the other hand, can rely upon the opinions of women without dedicating an extensive amount of time and effort to extracting such information themselves. A similar phenomenon likely occurs with women’s mating decisions. Although women value dominance, strength, and athletic prowess in their mating partners, women do not track and store detailed information about men’s athletic performance to the same degree that men do (e.g., rates of sports interests, viewership, and knowledge; Ellis et al., 2008). Instead, women rely upon men’s deference towards and opinions of other men to indicate which men possess these traits. Relying on other men’s behaviors and opinions may be an efficient way for women to glean this information because discerning athletic skill requires effort and investment in understanding physical competition, which detracts from women’s ability to focus on social competition. Therefore, although somewhat counter-intuitively, women will be more motivated than men to seek out others’ personal information because this information affects both their own and their rivals’ access to the best mates. Meanwhile, men can save their time and effort for their own domains of competition, allowing female social specialists to provide them with the information they need.

One potential source from which women can access social information is their same-sex friends. If women’s friends have access to the personal information of other women, women who extract such information from their friends will possess more information and can exert more damage to rivals than women who do not extract information from their friends. Women who have expectations that personal information be exchanged in their friendships will extract more information than women who do not. Therefore, our fourth prediction is that women, compared
to men, will hold higher expectations and that friends share their personal information and
women will place greater importance on these disclosures.

Another modern source of reputationally relevant social information is social media. If
women can gain personal information from the social media accounts of others, women who
spend more time investigating these accounts will uncover and possess more damaging
information about rivals than women who do not invest such time. Our fifth prediction was that
women, compared to men, would dedicate more time to studying the social media accounts of
others.

Informational Dissemination

If women extract damaging personal information about rivals but keep this information
to themselves, they will not influence rivals’ reputations. Women who instead pass on this
negative information, can tarnish the reputations of rivals, harming their rivals’ mate value and
access to the best mates. If, on the other hand, women discover reputationally enhancing
information about rivals, then disseminating this information will grant their rivals a relative
mating advantage. Women can most capitalize on their acquired social information by disclosing
information about rivals strategically: passing on reputation harming information and
withholding reputation promoting information. We therefore predicted that women would spread
negative social information and retain positive social information about rivals.

If women are competing with one another using social information, then they may
disclose reputationally damaging information in response to other women’s transgressions. That
is, if social information can harm other women’s access to mates, then reputational attacks may
be an effective means of seeking vengeance for women. Rather than engaging in a direct
confrontation (which may risks physical harm; Campbell, 1999), a woman can spread a rumor or
divulge a secret of a rival who crosses her. Our seventh prediction was that women would be more likely to use reputational defamation in response to the transgressions of others than would men (who might instead use direct physical aggression).

Although women can gain an advantage on the mating market by harming the reputations of rivals, there are also likely potential costs to slandering others. A woman who too often spreads negative information about others might diminish the credibility of her opinion or be perceived as untrustworthy (Turner, Mazur, Wendel, & Winslow, 2003). If women are highly motivated to protect their own reputations, a woman who discovers that a rival is besmirching hers will likely distrust and dislike this rival and may seek vengeance. If there are such potential costs to spreading negative information about and harming the reputations of others, women should not do so indiscriminately. To maximize the potential gains of reputation defamation (i.e., harming the mate value of rivals) while minimizing potential costs (e.g., retaliation, becoming known as a ‘gossip’), women should focus their informational attacks to their most formidable competitors. Defaming the reputations of women who are not formidable competitors would grant few benefits, while still risking potential costs. Women should therefore be selective about their targets and calibrate their attacks to those who pose the greatest threat. Because women are competing to attract long-term mates, women’s most formidable rivals will likely be those who threaten women’s likelihood of securing the best romantic partnerships. Rivals who are highly desirable to men or who threaten the stability of one’s romantic relationship would therefore be most likely to set off alarm bells and elicit reputational attacks. Therefore, our seventh prediction is that women should be more likely to pass on reputation damaging and less likely to pass on reputation enhancing information about women who are physically attractive to men or who
attempt to lure away women’s mates (e.g., through flirting) than women who are less attractive or who do not try to lure away women’s mates.

It appears logical that women should be motivated to disseminate rivals’ social information solely or directly to men to most effectively influence men’s mating decisions. However, we do not believe this strategy would always be optimal for women. If women directly told men their opinions and social knowledge about rivals, women’s competitive motivations could be transparent, diminishing the credibility of their statements. Indeed, Hess and Hagen (2006a) have found that people are less likely to believe gossip when the gossiper is in direct competition with the target of the gossip than when the speaker is not competing with the target. Women can instead maximize the believability of their gossip by passing the information on to other women in hopes that it will eventually make it back to men. That is, so long as other women relay the information (and some relay it to men), women do not need to always disclose their social information to men directly for men to receive it. A similar phenomenon likely occurs in politics. If a person wanted to slander the reputation of a candidate, he or she might tell a few individuals in hopes that the information ‘leaks’ rather than going on the record and risking retaliation or his/her credibility. In fact, spreading the information to multiple women may be the best strategy to optimize the gossip’s efficacy. Consistent with this argument, Hess and Hagen (2006a) found that gossip is most believable when it is repeated by multiple independent sources and when those sources have no direct interest in the information. Because of this reasoning, we did not explore to whom women relay their social information, but to be sure, future research could directly test these assumptions.
Individual Differences

As with any trait or behavior, there is likely to be variation from individual to individual. That is, not all women will engage in informational attacks to the same degree as others. However, if harming the reputation of rivals with social information is an intrasexual competitive strategy that may grant women a relative advantage on the mating market, then women who are more competitive in general may use this strategy to a greater degree than women who are generally less competitive. Highly competitive women, who care about being or performing better relative to others broadly, should also be more likely to use tactics that grant them better access to mates. Therefore, our final prediction was that variation in women’s engagement in reputational attacks would be predicted by variation in women’s general competitiveness. Specifically, highly competitive women should be more likely to use social information to harm the reputations of other women, and specifically, to harm those who are their most formidable rivals.

Research Overview

Predictions were tested across four online studies. In Studies 1 and 2, the interests, worries, experiences and friendship expectations were compared between men and women. Women were predicted to be more concerned with maintaining and protecting their reputations (defense), be more interested in others’ personal information (reconnaissance), and use more reputational attacks (dissemination) than men.

Studies 3 and 4 used experimental designs to test the prediction that women use social information about same-sex conspecifics to strategically harm the reputations of rivals. Women were presented with the profile of a female target, which was manipulated to make her either a more or less formidable mating rival. In Study 3 she either ostensibly flirted with the
participant’s mate or did not. In Study 4, she was either more or less physically attractive.

Women were predicted to be more likely to pass on reputation harming information and less likely to pass on reputation enhancing information about a more threatening same-sex rival than a less threatening one. Studies 3 and 4 also tested the prediction that highly competitive women would be more likely to use social information against threatening female targets.
STUDY 1

Study 1 used an online survey to compare the psychological proclivities, behaviors, and friendship patterns of men and women for informational defense, reconnaissance, and dissemination. First, Study 1 tested the prediction that women would be more concerned than men with protecting their reputations (informational defense). Women were predicted to be more concerned than men about a situation in which a friend could be sharing their personal information to a rival. If women’s reputations are more vulnerable to defamation than men’s, then this situation should pose a greater threat to women than men. Women were also predicted to believe more strongly than men that it is important that friends do not talk about them behind their backs and that friends are important for defending their reputations. These beliefs would be functional insofar as they motivate women to choose loyal friends and discourage friends from tarnishing their reputations.

Next, Study 1 tested the hypothesis that women be more interested in others’ personal information (informational reconnaissance). If women compete using reputationally relevant social information more than do men, women should be more motivated than men to seek out such information. This sex difference was tested in three ways. First, women were predicted to hold higher expectations than men that their friends share their own and others’ personal information. Women who expect this divulgence from their friends would have more social information at their disposal on average than women who did not have such expectations. Furthermore, women were predicted to show higher interests than men in the personal lives of those around them. This interest would be functional insofar as it motivated women to seek out reputationally relevant social information. Second, we predicted that women’s greater interest in personal information (relative to men) would extend to celebrities. Because celebrities are high
status and often attractive, celebrities have many of the traits also possessed by women’s most formidable rivals. Therefore, if women’s psychologies are designed to extract reputational information about mating rivals, women might also show an interest in the personal lives of celebrities. On the other hand, interest in the personal lives of celebrities could also function as practice. Women could use gossip magazines and discussions of celebrities’ behaviors with friends to gain an understanding of which social information is most valuable (e.g., reputation damaging). And third, women were predicted to thoroughly inspect the social media accounts of others to a greater degree than men. If social mediate accounts reveal reputationally relevant social information about others, women who inspect these thoroughly will gain access to social information that might be used to harm the reputations of rivals.

Last, Study 1 tested the prediction that women would use reputational defamation for vengeance more than men. First, men and women were given a hypothetical scenario in which a same-sex friend disclosed one of the participant’s secrets. Participants were asked how likely they would respond to this transgression with a direct confrontation, spreading a rumor about the transgressor, and divulging one of the transgressor’s secrets. Women were predicted to be less likely than men to respond with a direct confrontation (because this could lead to a physical alteration) but more likely to respond with informational attack (i.e., divulging a secret, gossiping). Next participants were asked how many times they had vengefully ruined a man and a woman’s reputation in the past. Women were predicted to report using this tactic more often than men.
Method

Participants

Two hundred and seventy five individuals from the United States responded to a survey posted on Amazon’s Mechanical Turk. Three people began but did not complete the survey and were excluded from analyses. Three people failed the attention check and were removed from analyses. One person did not indicate gender and was removed from analyses. The final sample consisted of 268 individuals (162 women; Mean age = 32.94; Range = 18-70).

Procedure

Participants were first presented with an online consent form. To evaluate men and women’s concerns about potential reputational attacks, participants responded to three items using a 7-point Likert scale (1 = not at all, 7 = completely). Participants’ responses to these items were combined to form a “reputation protection” composite (cronbach’s alpha = 0.764). The first two items assessed participants’ concerns about a hypothetical situation in which their personal information could be divulged. Specifically participants were asked how worried and how upset they would be if they had recently divulged personal information to a same-sex friend and that friend was now spending time with a rival. The third item assessed the degree to which participants believed that it is important for friends not to talk about them behind their backs. Participants also responded to an item assessing the to what extent they believed it is important for same-sex friends to defend their reputations. Although this item is conceptually relevant to the “reputation protection” composite, it did not load onto the factor and reduced the composite’s reliability (if included, alpha = 0.663). The results of this item are therefore presented separately.

To test the prediction that women would be more interested than men in others’ personal information, participants responded to four items on a 7-point Likert scale. Participants’
responses to these items were combined to form a “personal information extraction” composite (cronbach’s alpha = 0.785). The first two items assessed the degree to which participants wanted to know about the personal lives of the men and women they know. The third item asked participants how bothered they would be by a close same-sex friend who did not share his/her personal information. The fourth item asked to what extent participants believed it is important for same-sex friends to divulge their own secrets. Participants also responded to an item assessing the to what extent participants believed it is important for same-sex friends to provide information about others. Although this item is conceptually relevant to the “personal information extraction” composite, it did not load onto the factor and slightly reduced the composite’s reliability (if included, alpha = 0.772). The results of this item are therefore presented separately.

Men and women were also presented with two items assessing how often they “facebook stalk” other men and women (cronbach’s alpha = 0.844). Participants responded on a 7-point Likert scale (1= never, 7= very often).

Next, participants were presented with three items assessing their interest in celebrities, to which they responded on 7-point Likert scales. The first asked participants how often they purchased gossip magazines. The second asked participants how interested they are in the personal lives of famous people. Women were predicted to score higher on both of these items. The third item asked participants how interested they are in how famous people became famous. Men and women were not predicted to differ on this item insofar as this information would be useful to both sexes for social learning. However, factor and scale reliability analyses suggested that these three items tapped into the same construct (eigen value =1.68, cronbach’s alpha =.71).
Therefore, participants’ responses to these three items were combined to form an “interest in celebrities” composite.

Last, men and women answered items assessing their use of direct and informational aggression for vengeance. Informational aggression was assessed with two items (cronbach’s alpha = .806). Participants were told to imagine that a same-sex friend divulged one of their secrets. Participants were asked to indicate how likely (using a 7-point Likert scale, 1 = not at all, 7 = extremely) they would respond by telling one of the transgressor’s secrets or spreading a rumor about the transgressor. Direct confrontation was assessed with one item in which participants were asked how likely they would respond to the aforementioned transgression with a direct confrontation. Although only a single item, this question emerged in a factor analysis as a significant factor (eigen value= 1.074). Reputational ruin was assessed with two items in which participants indicated how many times in the past they had ruined a man and woman’s reputation for the sake of revenge (cronbach’s alpha = 0.794).

Results

Composite variables were created for each of the aforementioned factors. Men and women’s composite responses were compared using independent samples t-tests. Consistent with the prediction that women would be more concerned about protecting their reputations against potential informational threats, women (M=5.11, SD= 1.34) scored higher than men (M=4.53, SD= 1.39) on the ‘reputation concern’ composite, [t (266) = -3.41, p =.001, d= .42]. Also consistent with predictions, but using a single item measure, women (M=4.81, SD= 1.75) were more likely than men (M=4.37, SD= 1.65) to believe that same-sex friends are important for defending their reputations [t (265) = -2.05, p = .041, d= .26].
Consistent with the prediction that women would have higher interests in others’ personal information and attempt to extract this information from friends, women ($M=4.05$, $SD=1.36$) scored higher than men ($M=3.50$, $SD=1.29$) on the ‘personal information extraction’ composite, [$t (266) = -3.25$, $p = .001$, $d= .41$]. Consistent with predictions, but using the single item measure, women ($M=3.36$, $SD=1.83$) were marginally more likely than men ($M=2.95$, $SD=1.59$) to believe that same-sex friends are important for bringing information about others [$t (245.56) = -1.93$, $p = .055$, $d= .24$]. Women also engaged in more Facebook stalking ($M=2.74$, $SD=1.73$) than men [$M=1.97$, $SD=1.32$; $t (259.98) = -4.165$, $p < .001$, $d= .52$]. And women evinced a greater interest in celebrities ($M=2.53$, $SD=1.43$) than men [$M=2.11$, $SD= 0.88$; $t (265.23) = -2.92$, $p = .004$, $d= .36$]. However, it is worth noting that women ($M=3.09$, $SD=1.92$) and men ($M=3.30$, $SD=1.76$) did not differ significantly in their interest in how celebrities became famous when this item was explored individually [$t (266) = 0.90$, $p = .369$, $d= .11$].

Turning to responses to a hypothetical friend’s transgression, women were less likely to directly confront the transgressor ($M=5.57$, $SD=1.69$) than were men [$M=6.08$, $SD=1.13$; $t (265.76) = 2.91$, $p = .004$, $d= .36$]. However, contrary to predictions, women were slightly less likely to respond with informational attacks ($M=1.84$, $SD=1.24$) than were men [$M=2.03$, $SD=1.13$; $t (265) = 1.29$, $p = .199$, $d= .16$]. Also contrary to predictions, women were no more likely ($M=0.25$, $SD=0.85$) than men ($M=0.28$, $SD=0.74$) to report that they had vengefully ruined others’ reputations in the past [$t (265) = 0.234$, $p = .815$, $d= .03$].

Discussion

Study 1 supported the prediction that women would be more concerned than men with maintaining and protecting their own reputations. Compared to men, women were more worried about a situation in which their personal information could be exposed to a rival and had higher
expectations that friends do not talk behind their backs. Women were also more likely than men to believe same-sex friends were important for defending their reputations. However, because this sex difference was found in response to a single item rather than a composite, this particular finding should be interpreted with caution.

The prediction that women would be motivated to uncover the reputationally relevant information of others was also supported by the results of Study 1. Women were interested in others’ personal information and wanted their friends to divulge personal information more than men. Women were marginally (p = .055) more likely than men to believe that same-sex friends were important for bringing information about others. However, because this finding was only marginally significant and used a single item, this result also merits caution. Women thoroughly inspected the social media accounts of others more than did men. And, women were more interested than men in the lives of celebrities. Men and women did not differ in the individual item assessing interest in how celebrities became famous. However, because all three of the celebrity items emerged as one factor and evinced good reliability, it is unclear as to whether women are more interested in the personal lives of celebrities or simply more interested in celebrities generally.

The findings of Study 1 did not support the prediction that women would report more informational aggression than men. Although women were less likely than men to respond to a friend’s transgression with direct confrontation, women were no more likely to respond with an informational attack. And contrary to predictions, women were no more likely than men to report past use of reputational ruin for revenge. These absent sex differences were unexpected and could reflect that men and women use reputational attacks equally often. However, it is also possible that women are unwilling to report such aggressive acts because of concerns with social
desirability. Alternatively, women could be unaware explicitly that they are besmirching others’ reputations despite still transmitting the social information. That is, women may not need to have conscious knowledge of reputational harm or explicitly malicious intentions to still pass on information that harms the reputations of rivals. Consistent with this explanation, Laura Tracy (1999) found in her qualitative investigation of women’s competition that many women believe other women are competing with them, but they are not competing themselves.
STUDY 2

Study 2 sought to shed light on the reason behind Study 1’s finding that men and women did not differ in their reported use of reputational attacks. If women engage in more reputational attacks than men but are simply unaware of them or unwilling to report them, women might report that other women use reputational attacks. That is, women may believe that other women use these tactics but that they do not use them themselves. Therefore, Study 2 again presented participants with items about their previous use of reputational attacks. Study 2 also investigated sex differences in reports of victimization by same-sex aggression with informational attacks (e.g., secrets divulged, rumors, gossip). However, if women report more victimization by these acts, women might simply perceive themselves as victims more than men do. To control for this potential confound, participants were also asked to report on their past victimization by same-sex direct aggression (i.e., direct teasing, direct confrontations, threats, and physical fights). Rates of physical violence suggest that men engage in direct aggression more than do women (Archer, 2004). If women report experiencing less direct/physical same-sex aggression than men, then this would suggest that women are reporting accurately and are not simply portraying themselves as victims. Participants were also asked to report how hurtful they perceived each same-sex aggressive act if they had experienced it. Women were predicted to experience reputationally aggressive acts as more hurtful than men because women’s reputations are more vulnerable to attack than men’s. Experiencing these reputational blows as particularly painful would be functional insofar as these feelings motivated women to avoid situations that led to the reputational blows.

As an alternative way of investigating whether women transmit more reputationally relevant social information about others than do men, we presented both men and women with an
item about the difficulty they experience in keeping interesting personal information about others to themselves. If women do not want to report that they vengefully besmirch others’ reputations, perhaps an item framed in a less socially condemnable manner would evince the predicted sex difference, with women reporting that they find it more difficult to keep interesting personal information about others to themselves than men.

The second portion of Study 2 explored which types of information about celebrities men and women find most interesting. Study 1 found that women were more interested in the lives of celebrities. However, men and women did not differ in the individual item assessing interest in how celebrities became famous. Study 2 therefore sought to explore whether women are more interested in the personal lives of famous people or more interested in famous people more generally. Study 2 assessed men and women’s interest in a variety of topics about celebrities’ lives. If women more heavily compete with one another using social information and men more heavily compete with one another using physical aggression and coalitions (Winegard, Reynolds, Baumeister, & Plant, 2016), these relative domains of competition should affect each sex’s interest in the information of high-status others. Regardless of whether celebrities are perceived as rivals or celebrities’ information is used for practice, men and women should take interest in the type of information that is most relevant to their respective domains of competition. Therefore, the second prediction of Study 2 was that women would show a greater interest in celebrities’ social/personal information while men would show a greater interest in celebrities’ coalitional information.
Method

Participants

Two hundred and eighteen individuals from the United States responded to a survey posted on Amazon’s Mechanical Turk. Sixteen people began but did not complete the survey and were excluded from analyses. Two people failed the attention check and were removed from analyses. The final sample consisted of 200 individuals (146 women; Mean age = 34.25; Range = 18-65).

Procedure

Participants were presented with an online consent form. Next they reported their sex. Based on this response, they were directed to questions asking about their past experiences with same-sex others. They were asked to indicate on a 7-point Likert scale (1 = never, 7 = many times) how often they had experienced various forms of aggression by same-sex peers (telling their secret, spreading a rumor about them, gossip about them, being teased directly, being confronted directly, being threatened, and engaging in a physical fight). If participants had experienced any of the aggressive acts, they were asked to report how upsetting they found each act. Participants were then asked how often they had ruined the reputations of men and women for the sake of revenge. However, unlike the items in Study 1, these items elicited responses on a 7-point Likert scale (1 = never, 7 = many times). Then, participants were presented with an item assessing how difficult they experienced trying to keep others’ interesting personal information to themselves on a 7-point Likert scale (1 = not at all, 7 = extremely).

Next, all participants were directed to questions about their interests in celebrities. They were asked to envision the news stories they have encountered about celebrities and indicate how interesting they found various topics. Some of these topics had a more personal and social nature
(who the celebrity is dating, whether the relationship is going well, a romantic break up, who the celebrity is friends with, and whether the celebrity and a friend had a falling out). The other topics were of a coalitional nature (which team a celebrity was on, whether the team was playing well, if a player left a team, how players on a team stacked up against one another, and if a player had a falling out with another player on the team). Last, participants provided demographic information.

Results

Independent samples t-tests were used to compare the responses of men and women. See Table 1 for all items and their descriptive results. Consistent with predictions, women reported experiencing significantly more acts of informational aggression by same-sex peers: their secrets were told \( t(197) = -3.56, p < .001, d = .57 \); rumors were spread about them \( t(198) = -2.77, p = .006, d = .44 \); and they were gossiped about \( t(197) = -5.12, p < .001, d = .82 \) more often than were men. Men, on the other hand reported more frequent victimization of direct aggression by same-sex peers than women. Men were marginally more likely to experience direct teasing \( t(197) = 1.74, p = .083, d = .28 \) and significantly more likely to experience direct confrontations \( t(197) = 2.20, p = .029, d = .35 \), threats \( t(197) = 5.66, p < .001, d = .90 \), and physical fights \( t(85.68) = 4.97, p < .001, d = .79 \) than women. Of those who experienced acts of informational aggression, women found each act more upsetting: divulged secrets \( t(72.25) = -3.85, p < .001, d = .64 \); rumors \( t(176) = -4.29, p < .001, d = .73 \); and gossip \( t(190) = -3.47, p < .001, d = .58 \). Of those who were directly teased, women found it more upsetting, \( t(188) = -2.30, p = .023, d = .37 \). Of those who experienced acts of direct aggression, there were no sex differences in how upsetting these acts were perceived: direct confrontation \( t(189) = -0.083, p = \)
Women were slightly, but nonsignificantly more likely to report that it is difficult to keep interesting personal information about others to themselves ($t(198) = -1.10, p = .273, d = .18$). Contrary to predictions, and contrary to the rates of victimization, men reported more frequent use of ruining a man’s reputation for revenge ($t(66.96) = 2.15, p = .035, d = .34$) and slightly (though nonsignificantly) more use of ruining a woman’s reputation for revenge ($t(68.53) = 1.56, p = .123, d = .25$).

Turning to interest in information about high status others (i.e., celebrities), results generally supported predictions that women are more interested in personal information, while men are more interested in coalitional information. Women were significantly more interested in who the celebrity is dating, [$t(126.06) = -4.61, p < .001, d = .74$]; whether their romantic relationship is going well [$t(108.34) = -3.26, p = .001, d = .52$]; and a romantic relationship breakup [$t(105.57) = -3.22, p = .002, d = .51$]. Women were slightly, but nonsignificantly more interested in who celebrities were friends with, [$t(198) = -1.33, p = .186, d = .21$] and if they had a falling out with a friend [$t(198) = -1.33, p = .185, d = .21$]. When these topics were combined to form an ‘interpersonal composite’ (cronbach’s alpha = 0.94), women ($M = 2.92, SD = 1.70$) were more interested than men ($M = 2.18, SD = 1.43$) in celebrities’ interpersonal information [$t(111.8) = -3.10, p = .002, d = .49$]. Men, on the other hand, were significantly more interested in which team a celebrity was on, ($t(198) = 4.01, p < .001, d = .64$), whether the team was playing well, [$t(198) = 3.85, p < .001, d = .61$], if a player left a team, [$t(81.01) = 4.10, p < .001, d = .65$], how the players stacked up against one another, [$t(198) = 3.63, p < .001, d = .58$] and if a player had a falling out with another player on the team, [$t(77.87) = 2.076, p = .041, d = .33$].
When these items were combined to form a ‘coalitional composite’ (cronbach’s alpha = 0.93), men ($M = 3.66, SD = 1.92$) were more interested than women ($M = 2.53, SD = 1.62$) in celebrities’ coalitional information [$t(82.6) = 3.86, p < .001, d = .61$].

Table 1

*Descriptive Results of Study 2*

<table>
<thead>
<tr>
<th>Item</th>
<th>Men Mean (SD)</th>
<th>Women Mean (SD)</th>
<th>$t$ value (df)</th>
<th>$p$ value</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secret told: freq</td>
<td>3.46 (1.87)</td>
<td>4.52 (1.85)</td>
<td>$t (197) = -3.56$</td>
<td>&lt; .001</td>
<td>.57</td>
</tr>
<tr>
<td>Secret told: upset</td>
<td>4.48 (2.02)</td>
<td>5.70 (1.58)</td>
<td>$t (72.25) = -3.85$</td>
<td>&lt; .001</td>
<td>.64</td>
</tr>
<tr>
<td>Rumor: freq</td>
<td>3.61 (1.98)</td>
<td>4.48 (1.97)</td>
<td>$t (198) = -2.77$</td>
<td>.006</td>
<td>.44</td>
</tr>
<tr>
<td>Rumor: upset</td>
<td>4.45 (1.75)</td>
<td>5.63 (1.57)</td>
<td>$t (176) = -4.29$</td>
<td>&lt; .001</td>
<td>.73</td>
</tr>
<tr>
<td>Gossip freq</td>
<td>3.80 (1.98)</td>
<td>5.22 (1.65)</td>
<td>$t (197) = -5.12$</td>
<td>&lt; .001</td>
<td>.82</td>
</tr>
<tr>
<td>Gossip: upset</td>
<td>4.33 (1.71)</td>
<td>5.32 (1.70)</td>
<td>$t (190) = -3.47$</td>
<td>.01</td>
<td>.58</td>
</tr>
<tr>
<td>Teasing: freq</td>
<td>4.79 (1.86)</td>
<td>4.28 (1.86)</td>
<td>$t (198) = 1.74$</td>
<td>.083</td>
<td>.28</td>
</tr>
<tr>
<td>Teasing: upset</td>
<td>4.00 (2.01)</td>
<td>4.74 (1.97)</td>
<td>$t (188) = -2.30$</td>
<td>.023</td>
<td>.37</td>
</tr>
<tr>
<td>Confront: freq</td>
<td>4.54 (1.67)</td>
<td>3.96 (1.65)</td>
<td>$t (197) = 2.20$</td>
<td>.029</td>
<td>.35</td>
</tr>
<tr>
<td>Confront: upset</td>
<td>3.49 (1.76)</td>
<td>3.51 (1.81)</td>
<td>$t (189) = -0.083$</td>
<td>.934</td>
<td>.01</td>
</tr>
<tr>
<td>Threat: freq</td>
<td>4.15 (1.74)</td>
<td>2.66 (1.61)</td>
<td>$t (197) = 5.66$</td>
<td>&lt; .001</td>
<td>.90</td>
</tr>
<tr>
<td>Threatened: upset</td>
<td>4.29 (1.65)</td>
<td>4.17 (2.04)</td>
<td>$t (113.4) = 0.39$</td>
<td>.694</td>
<td>.07</td>
</tr>
<tr>
<td>Fight: freq</td>
<td>3.19 (1.74)</td>
<td>1.85 (1.54)</td>
<td>$t (85.68) = 4.97$</td>
<td>&lt; .001</td>
<td>.79</td>
</tr>
<tr>
<td>Fight: upset</td>
<td>4.12 (2.11)</td>
<td>3.96 (2.57)</td>
<td>$t (114.8) = 0.384$</td>
<td>.701</td>
<td>.07</td>
</tr>
<tr>
<td>Ruined man’s reputation</td>
<td>1.87 (1.59)</td>
<td>1.38 (0.93)</td>
<td>$t (66.96) = 2.15$</td>
<td>.035</td>
<td>.34</td>
</tr>
<tr>
<td>Ruined woman’s reputation</td>
<td>1.83 (1.68)</td>
<td>1.45 (1.04)</td>
<td>$t (68.53) = 1.56$</td>
<td>.123</td>
<td>.25</td>
</tr>
<tr>
<td>Difficulty keeping personal info to self</td>
<td>2.54 (1.58)</td>
<td>2.83 (1.70)</td>
<td>$t (198) = -1.10$</td>
<td>.273</td>
<td>.18</td>
</tr>
<tr>
<td>Who celebrity dates</td>
<td>2.02 (1.49)</td>
<td>3.22 (1.98)</td>
<td>$t (126) = -4.61$</td>
<td>&lt; .001</td>
<td>.74</td>
</tr>
<tr>
<td>How relationship going</td>
<td>2.00 (1.57)</td>
<td>2.85 (1.81)</td>
<td>$t (108.3) = -3.26$</td>
<td>.001</td>
<td>.52</td>
</tr>
</tbody>
</table>
Table 1 continued

Descriptive Results of Study 2

<table>
<thead>
<tr>
<th>Item</th>
<th>Men Mean (SD)</th>
<th>Women Mean (SD)</th>
<th>t value (df)</th>
<th>p value</th>
<th>Effect Size d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celebrity break up</td>
<td>2.19 (1.72)</td>
<td>3.10 (1.93)</td>
<td>t (105.6) = -3.22</td>
<td>.002</td>
<td>.51</td>
</tr>
<tr>
<td>Who friends with</td>
<td>2.43 (1.77)</td>
<td>2.82 (1.87)</td>
<td>t (198) = -1.36</td>
<td>.186</td>
<td>.21</td>
</tr>
<tr>
<td>Falling out friend</td>
<td>2.26 (1.64)</td>
<td>2.64 (1.83)</td>
<td>t (198) = -1.33</td>
<td>.185</td>
<td>.21</td>
</tr>
<tr>
<td>Which team playing well</td>
<td>3.67 (2.07)</td>
<td>2.42 (1.91)</td>
<td>t (198) = 4.01</td>
<td>&lt; .001</td>
<td>.64</td>
</tr>
<tr>
<td>Team playing well</td>
<td>4.06 (2.23)</td>
<td>2.75 (2.10)</td>
<td>t (198) = 3.85</td>
<td>&lt; .001</td>
<td>.61</td>
</tr>
<tr>
<td>Player left a team</td>
<td>3.94 (2.17)</td>
<td>2.57 (1.85)</td>
<td>t (81.01) = 4.10</td>
<td>&lt; .001</td>
<td>.65</td>
</tr>
<tr>
<td>Players stack up</td>
<td>3.59 (2.10)</td>
<td>2.51 (1.77)</td>
<td>t (198) = 3.63</td>
<td>&lt; .001</td>
<td>.58</td>
</tr>
<tr>
<td>Players falling out</td>
<td>3.07 (2.19)</td>
<td>2.39 (1.70)</td>
<td>t (77.9) = 2.08</td>
<td>.041</td>
<td>.33</td>
</tr>
<tr>
<td>Interpersonal Composite</td>
<td>2.18 (1.43)</td>
<td>2.92 (1.70)</td>
<td>t (111.8) = -3.10</td>
<td>.002</td>
<td>.49</td>
</tr>
<tr>
<td>Coalitional Composite</td>
<td>3.66 (1.92)</td>
<td>2.53 (1.62)</td>
<td>t (82.6) = 3.86</td>
<td>&lt; .001</td>
<td>.61</td>
</tr>
</tbody>
</table>

Discussion

As with Study 1, Study 2 did not find support for the prediction that women would report greater past use of reputational attacks. As mentioned, this pattern of results could reflect an absence of a sex difference in the real world. On the other hand, if women do engage in more reputational attacks than men, women may be either unaware they are doing so or unwilling to report it. Consistent with these latter two explanations, women reported greater victimization by same-sex peers’ informational aggression compared to men. That is, women reported that same-sex peers had disclosed their secrets, spread rumors about them, and gossiped about them more frequently than did men. However, these sex differences in victimization did not emerge for direct and physical forms of aggression, casting doubt out the possibility that women simply
perceive themselves as victims generally. It appears that women believe other women are using informational aggression but they are not themselves. Furthermore, of those who experienced acts of same-sex informational aggression, women experienced each act as more hurtful than did men, consistent with the contention that women’s reputations are more vulnerable to defamation compared to men’s.

The second prediction of Study 2, that women would show more interest in celebrities’ social and personal information was supported. Women were more interested in the romantic relationships and slightly more interested in the friendships of celebrities. However, this effect was not a by-product of women’s greater interest in celebrities more generally. Consistent with men’s greater reliance on physical and coalitional competition, men were much more interested in the celebrities’ coalitional information than were women. Thus, it appears that women’s greater interest in the personal lives of others applies not only to their immediate social partners but also to high status individuals.
STUDY 3

Across Studies 1 and 2, women’s interests, concerns, friendship expectations, and reports of victimization compared to those of men suggest that women may compete with one another using reputationally relevant social information. And although women evince a heightened interest in obtaining personal information about others, it has yet to be demonstrated that women use this information strategically. Across Studies 1 and 2, women were reluctant to report explicitly their use of reputational aggression. Study 3 employed an experimental design to evaluate whether women’s relaying of social information would be responsive to the threat level of an ostensible same-sex target. If women compete with one another to secure high-quality mates, then a critical domain of their competition would center around preserving their romantic relationships and protecting those relationships from potential mate poachers. Therefore, in Study 3, women were presented with a photo of an attractive woman and told to imagine that she had joined their social group. Half of the participants were also told to imagine that the woman in the photo had been flirting with their boyfriends. In the other condition, this phrase was omitted and there was no mention of the target’s flirting. Next all participants were presented with ten pieces of social information (half reputationally harming and half enhancing). Women were predicted to be more willing to pass along negative social information and less willing to pass along positive social information about the target woman when she threatened the stability of their own romantic relationships compared to when she did not.

Furthermore, if women’s use of social information is a competitive tactic, then competitive women (who seek relative advantages in life more generally) should use reputational attacks more intensively than women who are less competitive. To explore this contention, women were also presented with a competitiveness scale. Highly competitive women were
predicted to use the social information more strategically in response to the threatening target compared to less competitive women. That is, women who are competitive were predicted to show a stronger defensive response to overt mating threats and pass along more negative and less positive social information about the threatening target than women who are less competitive.

Method

Participants

One hundred and eight women from the United States responded to a survey posted on Amazon’s Mechanical Turk. Six women began but did not complete the survey and were excluded from analyses. Two failed the attention check and were removed from analyses. The final sample consisted of 100 women (Mean age = 35.01; Range = 18-72).

Procedure

All participants were presented with the same photo of a young attractive female. Women were randomly assigned to see one of two descriptions underneath the photo. In the non-threat condition, the description read “This is Veronica. She just joined your social group.” The threat condition presented the same description with the addition of the phrase, “and she has been flirting with your boyfriend.” Next, all participants were told to imagine they had discovered 10 pieces of social information about the woman. Five of these were reputation enhancing (confirmed by pre-tests): her IQ classifies her as a genius, she is a great singer, she donates to charity, she speaks four different languages, and she has traveled around the world. Five of these were reputation harming (also confirmed by pre-tests): she sleeps around a lot, she cheated on her last boyfriend, she thinks she might be pregnant, she used to be obese, and she has an STD. The presentation of the ten pieces of information were randomized to control for order effects.
Participants were asked to indicate on a 7-point Likert scale (1= not at all likely, 7 = extremely likely) how likely they would be to pass along each piece of information.

Next, to assess women’s individual differences in competitiveness, participants completed the competition subscale of the achievement motivation scale (AMS; Cassidy & Lynn, 1989). A sample item reads: “It annoys me when other people perform better than I do”. Last, participants completed demographic information.

Results

Independent samples t-tests compared women’s likelihood of passing on information about the threatening target (i.e., who ostensibly flirted with participants’ partners) to the non-threatening target (i.e., no mention of flirting). Consistent with predictions, women were more likely to pass along every piece of negative social information (with the exception of the item that the target used to be obese) about the threatening female target compared to non-threatening target. Women were also significantly less likely to pass along each piece of positive information about the threatening target compared to non-threatening target. See Table 2 for descriptives of each item. The five positive items and the five negative items were each combined to form a good information and bad information composite (cronbach’s alpha = 0.928 and .905, respectively). Using these composites, women were significantly more likely to pass along negative social information, (t (82.55) = 7.33, p < .001, d= 0.89) and less likely to pass along positive social information, (t (98) = -4.42, p < .001, d= 1.47) about the threatening female target compared to the non-threatening female target.

To investigate the effect of women’s individual differences in competitiveness on their responses to the condition, a linear regression model was used. When the bad information composite was regressed onto condition, women’s competitiveness scores, and their interaction
term, the overall model was significant ($F (3, 96)= 13.70, p < .001, R^2=.30$). There was a significant main effect of condition ($B= 1.40, t(96) = 4.33, p < .001$, squared partial =.163) and a marginal effect of competitiveness ($B= 0.391, t(96) = 1.35, p = .181$, squared partial =.018).

Table 2

*Descriptive Results of Study 3*

<table>
<thead>
<tr>
<th>Item</th>
<th>Threat Mean (SD)</th>
<th>Non-Threat Mean (SD)</th>
<th>$t$ value (df)</th>
<th>$p$ value</th>
<th>Effect size $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genius IQ</td>
<td>2.96 (2.20)</td>
<td>5.70 (1.57)</td>
<td>$t (88.50) = 7.16$</td>
<td>&lt; .001</td>
<td>1.43</td>
</tr>
<tr>
<td>Great Singer</td>
<td>3.22 (2.16)</td>
<td>5.64 (1.29)</td>
<td>$t (80.0) = 6.80$</td>
<td>&lt; .001</td>
<td>1.36</td>
</tr>
<tr>
<td>Charity</td>
<td>2.54 (2.03)</td>
<td>4.70 (1.87)</td>
<td>$t (98) = 5.54$</td>
<td>&lt; .001</td>
<td>1.11</td>
</tr>
<tr>
<td>Speaks 4 Languages</td>
<td>3.38 (2.24)</td>
<td>5.52 (1.57)</td>
<td>$t (87.73) = 5.54$</td>
<td>&lt; .001</td>
<td>1.11</td>
</tr>
<tr>
<td>Travels</td>
<td>3.46 (2.24)</td>
<td>5.58 (1.46)</td>
<td>$t (84.15) = 5.60$</td>
<td>&lt; .001</td>
<td>1.12</td>
</tr>
<tr>
<td>Sleeps Around</td>
<td>4.24 (2.14)</td>
<td>2.68 (1.93)</td>
<td>$t (98) = -3.82$</td>
<td>&lt; .001</td>
<td>0.77</td>
</tr>
<tr>
<td>Cheated on Ex</td>
<td>4.56 (2.22)</td>
<td>2.66 (2.03)</td>
<td>$t (98) = -4.47$</td>
<td>&lt; .001</td>
<td>0.89</td>
</tr>
<tr>
<td>Pregnant</td>
<td>4.18 (2.29)</td>
<td>2.12 (1.78)</td>
<td>$t (92.35) = -5.02$</td>
<td>&lt; .001</td>
<td>1.00</td>
</tr>
<tr>
<td>Formerly Obese STD</td>
<td>3.42 (2.16)</td>
<td>3.10 (2.05)</td>
<td>$t (98) = -0.76$</td>
<td>.449</td>
<td>0.15</td>
</tr>
<tr>
<td>STD</td>
<td>4.02 (2.25)</td>
<td>2.20 (1.70)</td>
<td>$t (91.35) = -4.57$</td>
<td>&lt; .001</td>
<td>0.91</td>
</tr>
<tr>
<td>Good Composite</td>
<td>3.11 (1.89)</td>
<td>5.43 (1.19)</td>
<td>$t (82.55) = 7.33$</td>
<td>&lt; .001</td>
<td>1.47</td>
</tr>
<tr>
<td>Bad Composite</td>
<td>4.08 (1.89)</td>
<td>2.55 (1.55)</td>
<td>$t (98) = -4.42$</td>
<td>&lt; .001</td>
<td>0.89</td>
</tr>
</tbody>
</table>

These were qualified by a significant interaction between competitiveness and condition ($B= 0.98, t(96) = 2.20, p = .031$, squared partial =.048) such that women’s competitiveness predicted their likelihood of passing on negative information about the target in the threat ($B= 1.37, t(96) = 4.06 p < .001$, squared partial =.147), but not in the non-threat condition ($B= 0.39, t(96) = 1.35, p = .181$, squared partial =.018). However, women’s competitiveness scores did not interact with condition to predict their passing on of positive information about the target, ($B=
0.156, \( t(96) = .354, p = .724, \text{ squared partial } = .001 \). That is, highly competitive women, but not less competitive women, increased their relaying of negative information about a woman who threatened their romantic partnership, but not about a woman who did not.

**Discussion**

Study 3 found that women’s interest in other women’s personal information is not inconsequential, but is strategically used against them. Consistent with predictions, women were more likely to pass on negative social information and less likely to pass along positive social information about a hypothetical woman who flirted with their mates than a woman who did not. That is, women harmed and didn’t help the reputations of their more threatening mating rivals. Furthermore, consistent with the argument that this use of social information is a competitive tactic, women’s individual differences in competitiveness predicted their likelihood of passing on negative social information about the threatening rival. Competitive women hurt the reputation of a woman who overtly threatened their mating prospects but not one who did not. That is, highly competitive women had a more aggressive informational response than did less competitive women. These findings support the contention that women’s use of social information is a competitive tactic.
STUDY 4

Study 3 found support for a critical contention of the informational warfare framework: women use social information strategically. That is, women were less likely to pass on positive information and more likely to pass on negative information about a same-sex target who overtly threatened the security of their romantic relationship than about a target who did not. However, if men value physical attractiveness in their mating partners (Buss, 1989), then attractive women should be greater threats and more formidable competitors on the mating market than women who are less attractive. Study 4 therefore examined the extent of women’s informational aggression to investigate whether women would use social information against a rival who only indirectly threatened their mating prospects (i.e., with her physical attractiveness).

Using an online survey, women were randomly assigned to see the photo of either a highly attractive or less attractive woman. Then, participants were presented with ten pieces of social information, which they ostensibly discovered about the female target and asked how likely they would be to pass along each. Women were predicted to be more likely to pass on negative and less likely to pass on positive social information about the attractive target compared to the less attractive target. As in Study 3, Study 4 also presented women with a competitiveness scale. Highly competitive women, compared to less competitive women were predicted to be more likely to pass along negative social information about the attractive target compared to the less attractive target.
Method

Participants

One hundred and ninety six individuals from the United States responded to a survey posted on Amazon’s Mechanical Turk. One male responded to the survey and was removed from analyses. The final sample consisted of 195 women (Mean age = 32.68; Range = 18-72).

Procedure

Participants were randomly assigned to see one of two profiles of a female individual. Both photos were a headshot (face and torso) of a young Asian female. However, one female was more attractive than the other, confirmed by pre-test ratings. Therefore, participants were randomly exposed to either the photo of a relatively attractive or unattractive woman. The caption underneath the photo was the same across conditions and read: “This is Veronica. She just joined your social group.”

Next, all participants were told to imagine they had discovered ten pieces of social information about the depicted woman. These were the same ten pieces of information used from Study 3, with half reputationally enhancing and half reputationally damaging. The presentation of the ten pieces of information were again randomized to control for order effects. Participants were asked to indicate on a 7-point Likert scale (1= not at all likely, 7 = extremely likely) how likely they would be to pass along each piece of information.

Next, participants completed the competition (e.g., “It annoys me when other people perform better than I do”) subscale of the achievement motivation scale (AMS; Cassidy & Lynn, 1989). Last, they completed demographic information.
Results

Independent samples t-tests were used to compare women’s responses to the attractive vs. unattractive target. See Table 3 for descriptives of each item. Consistent with predictions, women were more likely to pass along nearly every piece of negative information about the attractive target (with the exception of the item that the target might be pregnant, \( t(193) = -1.483, p = .140 \), and that the target has an STD, \( t(193) = -1.305, p = .193 \)) compared to the less attractive target. Participants were also significantly less likely to pass along every piece of positive information about the attractive target compared to the less attractive target. The five positive pieces of information and the five negative pieces were combined to form a good information and bad information composite (cronbach’s alpha = 0.808 and .879, respectively). Using these composites, women were significantly more likely to pass along negative social information (\( t (193) = -2.673, p = .008, d = .38 \)) and less likely to pass along positive social information, (\( t (163.88) = 5.591, p < .001, d = .82 \)) about the attractive compared to unattractive target.

To investigate the effect of women’s individual differences in competitiveness on their responses to the condition, a linear regression model was used. When the bad information composite was regressed onto condition, women’s competitiveness scores, and their interaction, the overall model was significant (\( F (3, 191)= 10.60, p = .003, R^2=.07 \)). Along with a significant main effect of condition (\( B= 0.628, t(191) = 2.92, p = .004 \), squared partial =.043), a significant effect of competitiveness also emerged (\( B= 0.513, t(191) = 2.53, p = .012 \), squared partial =.032). These two main effects were not qualified by an interaction between competitiveness and condition (\( B= -.315, t(191) = -1.00, p = .317 \), squared partial =.005), suggesting that regardless of the target woman’s attractiveness, more competitive (compared to less competitive) women were more likely to pass along negative information about her. A similar pattern was found for the
good information composite. The overall model was significant \( F(3, 191) = 12.98, p < .001, R^2 = .169 \). Along with significant main effect of condition \( B = -0.977, t(191) = -5.93, p < .001, \) squared partial = .155) a significant main effect of competitiveness emerged \( B = -0.363, t(191) = -2.33, p = .021, \) squared partial = .028). These were not qualified by an interaction between competitiveness and condition \( B = .249, t(191) = 1.03, p = .305, \) squared partial = .005), suggesting that regardless of the target woman’s attractiveness, highly competitive women were less likely to pass along positive information about her compared to less competitive women.

Table 3

*Descriptive Results of Study 4*

<table>
<thead>
<tr>
<th>Item</th>
<th>Attractive Mean (SD)</th>
<th>Unattractive Mean (SD)</th>
<th>t value (df)</th>
<th>p value</th>
<th>Effect size d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genius IQ</td>
<td>4.81 (1.88)</td>
<td>5.82 (1.31)</td>
<td>t (157.5) = 4.27</td>
<td>&lt; .001</td>
<td>.62</td>
</tr>
<tr>
<td>Great Singer</td>
<td>4.89 (1.66)</td>
<td>5.76 (1.33)</td>
<td>t (172.5) = 4.00</td>
<td>&lt; .001</td>
<td>.58</td>
</tr>
<tr>
<td>Charity</td>
<td>3.82 (1.80)</td>
<td>4.71 (1.96)</td>
<td>t (193) = 3.27</td>
<td>.001</td>
<td>.47</td>
</tr>
<tr>
<td>Speaks 4 Languages</td>
<td>5.14 (1.68)</td>
<td>6.02 (1.16)</td>
<td>t (157.6) = 4.18</td>
<td>&lt; .001</td>
<td>.61</td>
</tr>
<tr>
<td>Travels</td>
<td>4.89 (1.70)</td>
<td>5.97 (1.28)</td>
<td>t (165.7) = -4.95</td>
<td>&lt; .001</td>
<td>.72</td>
</tr>
<tr>
<td>Sleeps Around</td>
<td>3.13 (1.94)</td>
<td>2.45 (1.66)</td>
<td>t (178.3) = -2.61</td>
<td>.010</td>
<td>.38</td>
</tr>
<tr>
<td>Cheated on Ex</td>
<td>3.20 (1.86)</td>
<td>2.51 (1.68)</td>
<td>t (193) = -2.71</td>
<td>.007</td>
<td>.39</td>
</tr>
<tr>
<td>Pregnant</td>
<td>2.98 (1.94)</td>
<td>2.56 (1.75)</td>
<td>t (193) = -1.48</td>
<td>.140</td>
<td>.23</td>
</tr>
<tr>
<td>Formerly Obese STD</td>
<td>3.70 (2.04)</td>
<td>2.91 (1.90)</td>
<td>t (192) = -2.80</td>
<td>.006</td>
<td>.40</td>
</tr>
<tr>
<td>STD</td>
<td>2.47 (1.93)</td>
<td>2.13 (1.78)</td>
<td>t (193) = -1.31</td>
<td>.193</td>
<td>.18</td>
</tr>
<tr>
<td>Good Composite</td>
<td>4.71 (1.32)</td>
<td>5.66 (0.98)</td>
<td>t (163.9) = 5.59</td>
<td>&lt; .001</td>
<td>.82</td>
</tr>
<tr>
<td>Bad Composite</td>
<td>3.10 (1.62)</td>
<td>2.52 (1.40)</td>
<td>t (193) = -2.67</td>
<td>.008</td>
<td>.38</td>
</tr>
</tbody>
</table>
Discussion

Study 4 demonstrated that women strategically use social information to hurt and not help the reputations of physically attractive women more than less attractive women. That is, more than just responding to overt threats to their romantic relationships, women use social information to hinder the reputations of women who indirectly threaten their mating prospects, with their physical attractiveness. Furthermore, women’s individual differences in competitiveness predicted their likelihood of using this social information. Regardless of the target’s attractiveness, more competitive women were more likely to pass along negative information and less likely to pass along positive information about another woman. Thus, competitive women compared to less competitive women not only show a stronger defensive response to threatening rivals (Study 3) they also show a more aggressive offensive informational strategy, preemptively inflicting damage on the reputations of other same-sex competitors.
GENERAL DISCUSSION

We began this article with a pattern: women’s greater use of gossip. Researchers have forwarded an explanation for this sex difference, contending that it reflects a more viable and effective means of intrasexual competition for women than men (e.g., Hess & Hagen, 2006a, 2006b, 2009; McAndrew, 2014). That is, because men value chastity and sexual fidelity in their long–term mating partners, traits that are not immediately perceptible or confirmable, men must rely upon the opinions of others and social reputations to inform their mating decisions to a greater degree than must women, whose mating preferences focus on relatively manifest male traits (Buss, 1988; Buss & Schmitt, 1993). Women with better reputations would be more desirable on the mating market and would have better access to the high quality mates compared to women with worse reputations. Therefore, women who guarded their own reputations and strategically transmitted social information to tarnish those of their rivals would have outcompeted women who did so to a lesser degree or not at all. Furthermore, Hess and Hagen (2009) have contended that women who use their same-sex friendships to help them in this competition would be more successful than women who did not.

If women can improve their odds of attracting an ideal long-term partner by competing against other women with reputationally relevant social information, then women should evince psychological traits and behavioral tendencies that optimally equip them for this competition. That is, women should be specialized for this style of competition. The current investigation sought to derive and test predictions that women’s interests, worries, friendship expectations, and behaviors would be well-designed for informational battle at three levels: defense, reconnaissance, and dissemination.
Consistent with the contention that reputational damage may be a more viable competitive strategy for women than men, Study 2 found that women reported more victimization by same-sex peers to informational forms of aggression (i.e., their secrets were told, rumors were spread about them and they were gossiped about), but less victimization by same-sex peers to physical and direct forms of aggression (i.e., direct confrontations, threats, and physical fights) compared to men. Furthermore, women who experienced informational aggression by same-sex peers found this aggression more hurtful than did men, granting some support to the assertion that women’s reputations are more vulnerable to attack than men’s. If women’s same-sex peers use informational aggression to a greater degree than men’s, then this creates a need for women to defend themselves against such harmful attacks.

Indeed, sex differences found in Study 1 suggest that some features of women’s psychologies may be designed for this purpose. That is, women, compared to men, displayed higher concerns about potential attacks to their reputations. Specifically, women thought it was more important that their same-sex friends did not talk about them behind their backs. Women also believed more strongly than men that same-sex friends are important for defending reputations. These finding supports the contention of Hess and Hagen (2009) that women use their same-sex friends to help them in informational defense. Compared to men, women were more concerned about a hypothetical scenario in which a friend to whom they recently told a personal secret was spending time with a rival. If women exchange reputationally relevant social information with one another and this information has a greater potential for damage to women’s compared men’s reputations, then this scenario, in which important social information could be or is likely being transmitted, should be more threatening to women than men. The results of Study 1 were supportive of this prediction.
However, if social information affects the mating prospects of women’s same-sex competitors, then women should be motivated to uncover it. Women who are better at discovering reputationally relevant information can inflict more damage to the reputations of rivals and will outcompete other women who take no interest in or enhance the reputations of their rivals. If men’s mate value, on the other hand, is more contingent upon relatively manifest traits (e.g., strength, dominance, etc.) than women’s, then men cannot damage the mate value of their same-sex competitors with personal information to the same degree that women can. Therefore, women were predicted to show a greater interest in discovering personal information about others than men. This predicted sex difference was largely supported by the results of Studies 1 and 2. Study 1 found that women were more interested than men in the personal lives of their social partners and believed more strongly that friends should divulge their personal information. Women also marginally ($p = .055$) valued their same-sex friends more than men for bringing others’ information. These findings provide some support to the argument of Hess and Hagen (2009) that women use their friends to help them uncover social information.

Women’s greater interest in personal information extended beyond interest in immediate social partners to interest in celebrities. Some researchers have contended that celebrities are high-status individuals and interest in them may function to promote social learning (Henrich & Gil-White, 2001). If this logic is extended, it is possible that individuals may also use discussions of celebrities’ behaviors for social learning. That is, as a person discusses the lives of celebrities, he or she will learn which of the celebrities’ behaviors are met with intrigue, disapproval, scorn, etc. On the other hand, some researchers have contended that because people often encounter images and depictions of celebrities, people may come to mistakenly believe (perhaps not consciously) that celebrities are partners in their immediate social groups (Barkow, 1992). If so,
then celebrities would possess many of the traits of formidable mating rivals; they are attractive, high status, and wealthy. Both explanations would predict that individuals’ particular interests in celebrities would reflect individuals’ interests in their immediate social partners and therefore, may be illuminative.

Consistent with this contention, Study 1 found that women were more likely to buy gossip magazines and were more interested in celebrities’ personal lives than men. The individual item regarding how celebrities became famous was not significantly different among men and women when explored separately. However, because this item was reliably related to Study 1’s two other items about celebrities, it was unclear if women were more interested than men in celebrities’ personal lives or simply more interested in celebrities in general. The results of Study 2 suggested that women’s greater interest in celebrities is specific to personal or interpersonal topics. Compared to men, women were more interested in who celebrities were dating, whether their relationships were going well, their relationship break ups and slightly more interested in celebrities’ friendships. Men, on the other hand, were more interested than women in celebrities’ coalitional information: to which team the celebrity belonged, how the team was performing, how players stacked up against one another, if a player left a team, and a falling out between players. If men compete with one another in groups and if their mate value is contingent upon traits such as dominance and strength, then men would be interested in gleaning this information about others more than women (Winegard et al., 2016). Therefore, the sex difference in interests in celebrities from Studies 1 and 2 mirrored the pattern of sex differences in interests in immediate social partners. Women were more interested in the personal lives of celebrities (just as they were about the people they knew) and this effect appeared more specific than a heightened interest in celebrities generally.
Turning to sex differences in reports of reputational aggression, results were less consistent. Although women reported more informational aggression by their same-sex peers than men, women were reluctant to report using informational aggression themselves. Women were no more likely than men to report that they would respond to a friend’s transgression with informational attack. They were also no more likely than men to report ruining others’ reputations for revenge. A few explanations for the absence of the predicted sex difference can be forwarded. Women may not wish to report that they use these tactics because of concerns about social consequences. That is, if society judges aggressive women more harshly than aggressive men (e.g., Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972), women may try to conceal these traits and behaviors. Consistent with this contention, women evince higher social desirability scores than do men (e.g., Bernardi & Guptil, 2008; Chung & Monroe, 2003; Cohen, Pant, & Sharp, 1998; Cohen, Pant, & Sharp, 2001).

A second explanation for the absent sex difference may be that women do not consciously realize they are using these tactics. That is, women do not need to explicitly realize they are ruining another woman’s reputation when transmitting social information for the information to be effective. If women relay damaging information, the target’s reputation will be harmed and the gossiper’s intentions do not matter. To give an example, if Sally told her friends about Tina’s behaviors because she was concerned (e.g. “I am really worried about Tina. She has had a lot of sex partners lately and I am not sure if she is being careful.”), she has still transmitted the same information about Tina’s promiscuity despite Sally’s well-meaning intentions. Sally does not have to hold or convey explicitly malicious intentions (e.g., “Tina is such a slut”) to pass on the same information about Tina’s sexual behavior. In fact, not having any conscious malicious motivations may be the optimal strategy for transmitting information to
minimize the likelihood of retaliation. Consistent with this possibility, Tracy (1991) found in her qualitative investigations of women’s competition that many women report other women are competing with them but they are not competing against other women. The current investigation found a similar pattern: women reported greater informational victimization by same-sex peers than men, but not greater use of the informational aggression themselves.

A third explanation for the absent sex difference in reports of reputational attack is that there is no sex difference in the real world. That is, men and women may both use social information to hurt the reputations of others. To the extent that reputations mediate access to important resources, social partners and mates for both sexes, this could be a viable competitive strategy for both sexes. Consistent with this contention, McAndrew and Milenkovic (2002) have found that both men and women are more likely to relay negative information about rivals and positive information about allies. However, men and women may use different types of information against their same-sex competitors. And indeed, McAndrew and Milenkovic (2002) found sex differences in interest in gossip such that women were interested in other women’s sexuality and infidelity. Men, on the other hand, were interested in other men’s gambling debt and sexual inability. Consistent with the contentions and findings of the current investigation, however, women show a greater interest than men in gossip about same-sex others (McAndrew, Bell & Garcia, 2007; McAndrew & Milenkovic, 2002). Nonetheless, future investigations could explore how men and women’s reputational attacks may differ. Because there were both theoretical (i.e., the greater vulnerability of women’s reputations) and empirical (e.g., patterns of gossip) reasons to predict women’s greater reliance on informational aggression for their intrasexual competition, the second portion of the investigation explored whether women use social information strategically in response to same-sex conspecifics.
If women can damage the reputations of rivals with social information, granting themselves a relative advantage on the mating market, women should relay social information strategically. That is, the information women choose to relay should be contingent upon the threat level of a mating rival and the potential benefits of tarnishing that woman’s reputation. If women focus their attacks to rivals who are the greatest mating threats, women can reap the benefits of tarnishing a rival’s mate value while minimizing the potential costs of this aggression (e.g., retaliation by the target, decreased trustworthiness, etc.). Consistent with this argument, Studies 3 and 4 demonstrated that women’s use of social information is strategic and responsive to the threat level of their same-sex conspecifics. Women were more likely to pass along reputation damaging information and less likely to pass along reputation enhancing information about another woman who threatened the stability of women’s own romantic partnerships (i.e., flirted with their mate) compared to a woman who did not. However, women’s use of social information went beyond responding to overt mating threats. Women were more likely to pass along information that hurt the reputations and less likely to pass along information that helped the reputation of an attractive woman compared to a less attractive woman. Because men value physical attractiveness in their mating partners (Buss & Schmitt, 1993; Symons, 1979), a physically attractive woman is a formidable competitor on the mating market and could indirectly hurt one’s own mating prospects (e.g., Kenrick & Gutierres, 1980). And indeed, women were responsive to this threat, using social information against another woman when she was more attractive compared to less.

However, women did not respond uniformly to the female targets. If using social information is an intrasexual competition tactic, which provides relative reputational advantages, then the use of this information should be responsive to women’s individual differences in
competitiveness. And indeed, the results of Studies 3 and 4 found that highly competitive women use social information more strategically and more harmfully than women who are less competitive. Competitive women were more likely to hurt the reputation of a woman who flirted with their mate compared to one who did not (Study 3). Competitive women were also more likely to hurt the reputation and less likely to enhance the reputation of another woman, regardless of her attractiveness (Study 4). These results suggest that competitive women may have both more responsive and more preemptively aggressive informational strategies than less competitive women.

Alternative Explanations and Limitations

Although the findings of the current investigation support an informational competition framework, they might also support alternative theoretical explanations. To take one example, if the social information is transmitted among women, but never falls upon the ears of men, the interchange of social information may serve a different purpose. Perhaps women exchange reputationally relevant information to intimidate or discourage each other. That is, perhaps the possibility (or actual occurrence) of other women’s gossiping intimidates women or makes them feel insecure. Women therefore might not behave as confidently or flirtatiously as they might have otherwise, potentially harming their ability to meet and attract men. We believe this is a distinct possibility, but not mutually exclusive from our main contention. To the degree that women compete for mates, and if gossip can harm women’s mating prospects through either intimidation or reputational damage, informational exchange could be competitively advantageous for both reasons. To understand the mechanism more fully, however, future research should explore the degree to which 1.) men hear women’s gossip and 2.) women’s gossip affects men’s mating decisions.
Before commencing upon a discussion of the potential implications of these findings, some limitations of the current investigation must be addressed. First, each of the studies were conducted online and were therefore limited by reliance on hypothetical scenarios and self-report. People may behave differently than they predict they would. To explore this possibility, future studies could collect behavioral data on men and women’s interests and social behaviors. For example, do men and women spend more time discussing different social topics, do they spend different amounts of time seeking information about their social partners (e.g., via social media, verbal inquiries, etc.), or do they respond differently to actual friendship violations?

Another potential limitation of online research is reduced participant engagement. To proactively address this issue, we included attention checks in each study. Furthermore, we limited participation on MTURK to those who had completed fewer than 1,000 online assignments. This was done with the hopes of weeding out those who are MTURK ‘experts’ who could be skilled at detecting attention checks while not exerting much effort on the rest of the survey.

Nonetheless, laboratory experiments, which likely demand more participant engagement, are needed to establish the validity and generalizability of our findings.

Second, this investigation explored the responses only of those from the United States. Friendship patterns, victimization rates, interpersonal concerns, and interest and engagement with gossip may vary from culture to culture. For example, it is theoretically plausible that in societies in which men place a greater importance on women’s chastity (e.g., the Middle East), gossip and reputation defamation may be an especially effective intrasexual competition strategy for women. This may result in heightened interests in women’s sexual behaviors and increased vigilance about women’s own sexual reputations. Likewise, the reverse pattern may be found among cultures in which men place a lower importance on women’s chastity. For example, in
highly egalitarian societies (e.g., Denmark), sexual chastity may be less influential for a woman’s mate value, and there might, therefore, be reduced incentives for discovering and promulgating this information. Future studies could explore variation in the amount and content of gossip across cultures.

A third limitation of this investigation is that it did not explore the consequences of negative and positive social information on women’s mating potential. Because men value chastity in their long-term mating partners and because this trait is invisible, it is theoretically coherent to assume that men value the sexual reputations of women when forming their pair bonds. And consistent with this contention, parents are especially protective of their daughters’ sexual behavior, suggesting they are attempting to preserve their daughters’ mating value (Perilloux, Fleischman, & Buss, 2008). Furthermore, previous research suggests that the opinions of others do indeed affect men’s attraction to women (Fisher & Cox, 2009; Kenrick & Guiterres, 1980). However more research is needed to support the contention that men rely on women’s reputations when forming their mating decisions. Future studies could explore which reputational claims most affect the mate value of women compared to men, the extent to which they do, and whether the claims are more influential for some domains than others (e.g., short-term mating vs. long-term mating).

Implications and Future Directions

Despite its limitations, the current investigation has important social implications, perhaps most directly for our understanding of female aggression and bullying. Interest in indirect and social aggression has been growing in recent time. Research on the prevalence, patterns, and consequences of indirect aggression has increased social awareness and concern for this long overlooked and poorly understood phenomenon (e.g., Archer & Coyne, 2005; Coyne,
Archer, & Eslea, 2006; Crick & Gotpeter, 1995). If the findings in this article prove to be an accurate depiction of women’s use of social information, then they may help predict who will be most likely to use and fall victim to such forms of aggression. Indeed, consistent with the findings of Study 4, investigations of adolescent bullying reveal that attractive girls are at an increased risk of victimization (e.g., Eder & Enke, 1991; Leenaars, Dane, & Marini, 2008). This knowledge is critical if our goal is to reduce indirect aggression, bullying and the suffering of victims. Furthermore, results of the current article and qualitative investigations by Tracy (1991) suggest that women do not acknowledge that they are competing with other women. This suggests that detecting reputational aggression will be particularly difficult and therefore, may require enhanced vigilance (e.g., by teachers).

This article also builds upon the work of previous researchers in forwarding a theoretical explanation behind this particular style of aggression. Understanding the underlying causes of informational aggression helps to predict its manifested pattern and sheds light onto potential solutions. For example, if informational warfare is used to compete for mates, reputational aggression may be heightened in situations in which competition for mates is particularly high (e.g., when the sex ratio is skewed such that there are more women compared to men). The theoretical framework also emphasizes the gravity of consequences for victims of reputational attack. That is, if a woman’s reputation is tarnished, this can have profound and tangible consequences for her ability to form friendships and secure romantic relationships long into her future. Recent social and political policy has focused on reducing physical bullying in schools and other settings. However, if reputational aggression has long-lasting and important consequences for its female victims, it too merits attention.
Conclusion

In the opening example, we presented a scene in which a high school girl, Gretchen, disclosed the sexual infidelity of her former friend, Regina, and we asked why she might respond this way and whether her response was representative of women’s behavior more broadly. If the theory presented in this article is sound, then revealing this information might be a particularly effective means of harming another woman’s sexual reputation, which could hurt her long-term mating prospects. And, if the results of this investigation are valid, then this scene sheds light onto the aggressive, yet hidden world of competition that many women have endured and will continue to endure.
APPENDIX A
IRB APPROVAL LETTER

Office of the Vice President for Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 01/07/2016

To: Tania Reynolds

Address: 

Dept.: PSYCHOLOGY DEPARTMENT

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
Informalional Competition

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 01/05/2017 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Roy Baumeister, Advisor

HSC No. 2015.17221

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CONSENT FORM

Study Title: Impression Formation, Social Relationships and Social Situations

You are being asked to participate in an anonymous survey study. Your participation is entirely voluntary. Participants must be 18 years of age or older to participate.

Why is this study being done?
The purpose of this research study is to investigate people’s social relationships, how they would respond in particular social situations and how good people are at knowing what an individual is like from only a small amount of information.

How long will I be in the study?
Participation should take approximately 10-15 minutes. Once you finish the computer-based questionnaire, your participation will be complete.

What other options are there?
You have the option of not taking part in this study.

What about confidentiality?
Your participation is completely anonymous. We do not ask for any identifying information on the survey. There will be no way for anyone to tell which survey you completed.

What are my rights?
Taking part in this study is completely voluntary. You may choose not to take part in any or all of this survey, and you may stop at any time. If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researchers, please contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633 or via e-mail (humansubjects@magnet.fsu.edu).

Who should I contact with questions or problems concerning the study?
Questions about this study may be directed to the research coordinator, Tania A. Reynolds. Please type your name below to indicate that you read and understand this consent form and you give your consent to taking part in this brief survey.
REFERENCES


BIOGRAPHICAL SKETCH

Tania A. Reynolds

RESEARCH PROGRAM

My research applies evolutionary and social psychological theories to investigate human social competition for mates and alliance partners and the biological correlates of these processes. My program of research investigates how women’s desires, beliefs, and hormones are affected by their social relationships and environment. Specifically, I examine how women’s endocrine levels are responsive to the quality of their romantic partnerships. Another line of research looks at how the level of mating competition in a woman’s local environment predicts her body dissatisfaction and eating pathology. I am particularly interested in developing a line of research examining the intersections between evolutionary psychology, social psychology, and endocrinology.

EDUCATION

Florida State University
Area: Social Psychology
2012- current

University of California, Los Angeles
Bachelor of Arts in Psychology
Summa Cum Laude
GPA: 3.95  GRE: 1430
2007- 2010

RESEARCH INTERESTS

Social Selection, Sexual Selection, Mating, Endocrinology, Attachment

PUBLISHED AND IN-PRESS MANUSCRIPTS


* This publication won the SPSP Student Publication Award and the Jane West Award


**MANUSCRIPTS UNDER REVIEW**


**GRANTS/ FELLOWSHIPS/ AWARDS**

| 2016 Outstanding Teaching Assistant Award Nomination | January, 2016 |
| Graduate Travel Award | August, 2015 |
| 2016 SPSP Convention |
| Diversity Fund Graduate Travel Award | August, 2015 |
| 2016 SPSP Convention |
| 2015 Outstanding Teaching Assistant Award Nomination | January, 2015 |
| FSU Student Star | August, 2014 |
National Science Foundation Graduate Research Award  
“Fidelity and fecundity: Relationship quality as a predictor of female fertility”  
April, 2013

Legacy Fellowship  
Florida State University Graduate School  
March, 2012

Summa Cum Laude  
University of California, Los Angeles  
June, 2010

CONFERENCE PRESENTATIONS


CONFERENCE POSTER PRESENTATIONS


OTHER PRESENTATIONS


PROFESSIONAL DEVELOPMENT

FSU PIE Teaching Conference August, 2014
FSU Teaching Practicum Spring-Summer 2015

MENTORING

Preparing Future Researchers Panel October 2014, March 2015
Chair and Panelist

Undergraduate research assistants I have mentored and their respective graduate programs:
Alejandra Garcia Wayne State Psychology PhD Program
Ana Alfaro NOVA Southeastern University PsyD Program
Anna Brady Ohio State Educational Psychology PhD Program
Amanda Clark NOVA Southeastern University PsyD Program
Ashley Flanagan St. Mary's University Counseling Psychology

TEACHING EXPERIENCE

Social Psychology Fall 2015
Course Instructor
Psychology Department, Florida State University

Research Methods Laboratory Fall 2014
Teaching Assistant
Psychology Department, Florida State University

Media, Violence, and Evolution Summer 2011
Undergraduate Teaching Assistant
Communications and Women's Studies Department, UCLA