

# Is Comparison the Thief of Joy? Sexual Narcissism and Social Comparisons in the Domain of Sexuality

Personality and Social Psychology Bulletin  
2017, Vol. 43(2) 233–244  
© 2016 by the Society for Personality and Social Psychology, Inc  
Reprints and permissions:  
sagepub.com/journalsPermissions.nav  
DOI: 10.1177/0146167216678862  
journals.sagepub.com/home/pspb  


Lisa C. Day<sup>1</sup>, Amy Muise<sup>2</sup>, and Emily A. Impett<sup>3</sup>

## Abstract

Are people who are high in sexual narcissism more sensitive to information comparing their sex lives with the sex lives of others? Does this sensitivity explain narcissists' lower sexual and relationship satisfaction? We conducted three studies to address this question. Participants completed the Sexual Narcissism Scale (Widman & McNulty, 2010), and then either recalled (Study 1), imagined (Study 2), or actually made (Study 3) a sexual comparison. We found that people high in sexual narcissism (compared with those lower in sexual narcissism) were more bothered when comparing themselves with someone with a higher sexual frequency and felt better about a comparison with someone with a lower sexual frequency. In turn, narcissists' greater sensitivity to upward social comparisons predicted lower sexual and relationship satisfaction. These results suggest that those high in sexual narcissism may use downward sexual comparisons to maintain their grandiose self-views and be particularly sensitive to upward sexual comparisons.

## Keywords

romantic relationships, sexuality, personality, narcissism

Received June 22, 2016; revision accepted October 12, 2016

Comparison is the thief of joy.

—Theodore Roosevelt

A quick glance at available magazines at the check-out counter of any grocery store will showcase countless headlines with information about other people's sex lives providing people with opportunities to compare their sex life with the sex lives of others. In many television shows and movies, sex is portrayed as easy and effortless, as well as frequent and passionate. Yet, we know from recent research—including a nationally representative sample of more than 25,000 people in the United States—that, on average, couples in long-term relationships report engaging in sex about once per week (Muise, Schimmack, & Impett, 2016), a far cry from the frequent, passionate sex depicted in the media. How do people reconcile their own sexual experiences with the information they receive about the sex lives of others? And, might some people—perhaps those who have strong self-image concerns—be particularly bothered when making these types of comparisons?

One factor we think will be crucial in shaping the kinds of sexual comparisons people make as well as their reactions to these comparisons is *sexual narcissism*, defined as the tendency to exploit others, a lack of empathy, feelings of grandiosity, and an excessive need for validation in the sexual domain (Widman & McNulty, 2010). Specifically, we expected that in contrast to people who are low in sexual

narcissism, those high in sexual narcissism will be more likely to make downward comparisons of sexual frequency—That is, they will be more likely to compare their sex lives with people who are having sex less frequently than they are—possibly as a way to maintain their grandiose self-views. Furthermore, we expected that compared with those low in sexual narcissism, those high in sexual narcissism would be more upset when they discover that they are having sex less frequently than other people, which will, in turn, detract from their sexual and relationship satisfaction. In short, we predicted that comparison will be the thief of joy and satisfaction for people high in sexual narcissism.

## Social Comparisons

In Western culture, we are presented with information about sexuality in conversations with friends, television shows, movies, and magazines (Escobar-Chaves et al., 2005). However, to our knowledge, no research has focused on how

<sup>1</sup>University of Toronto, Ontario, Canada

<sup>2</sup>York University, Ontario, Canada

<sup>3</sup>University of Toronto Mississauga, Ontario, Canada

### Corresponding Author:

Lisa C. Day, University of Toronto Mississauga, 3359 Mississauga Road, Mississauga, Ontario, Canada L5L 1C6.

Email: l.day@mail.utoronto.ca

information about other people's sex lives affects adults' views of their own sex lives and relationships. Given that sexuality is a crucial component of well-being (Impett, Muise, & Peragine, 2014), and engaging in more frequent sex predicts increased relationship satisfaction (Muise et al., 2016), how do people determine whether they are having "enough" sex? Perhaps people feel like they are having enough sex as long as partners are maintaining some mutually agreed upon sexual frequency. Alternatively, it is possible that people only feel that they are having enough sex when they are having it *more* than other people. More likely, there may be some individual variation in how people determine whether or not they are having "enough" sex, and in particular, the extent to which they compare themselves with others.

When people want to assess their performance in a domain which is important to them, they make social comparisons by comparing their performance with the performance of other people (Festinger, 1954). When people make an *upward* social comparison, they compare themselves with someone who is doing better than them in a given domain. Alternatively, when they make a *downward* social comparison, they compare themselves with someone who is doing worse than them. Furthermore, these comparisons can be either motivated, or sought after by person making the social comparison, or they can be presented to people in a more passive way. For example, after a sexual rejection, a person might seek out a comparison with a friend who experiences frequent sexual rejection as a way to make themselves feel better. Alternatively, social comparisons can be forced on us, for example, if after a particularly lackluster evening with our romantic partner, a friend calls to and tells us about a particularly satisfying evening with his or her own partner, we might make a comparison between ourselves and that friend automatically (Wood, 1989).

Past research has shown that social comparisons influence the way that people feel about themselves. For example, in one study, university students waited in a room next to either a disorganized, disheveled college student (downward comparison) or a well-dressed, competent-looking student (upward comparison). Later, those who sat with the well-dressed student reported lower self-esteem than those who sat with the disorganized one (Morse & Gergen, 1970). Although researchers have investigated social comparisons across a variety of traits including intelligence, attractiveness, talent, social skills, and personal attributes (Buunk, Grootjohf, & Siero, 2007; Pinkus, Lockwood, Schimmack, & Fournier, 2008; Tesser, Millar, & Moore, 1988), we are aware of no research that has directly tested the impact of social comparisons in the domain of sexuality on sexual and relationship satisfaction.

Almost all sexually dissatisfied men and two thirds of sexually dissatisfied women desire to engage in *more* sex than they are currently having (Smith et al., 2011). Thus, it stands to reason that people value having regular sex and that *sexual comparisons* with others who are doing "better" than them

(having more frequent sex than they are) might be upsetting and comparisons with others who are doing "worse" (having less frequent sex) might feel good. Indeed, in one study of more than 50,000 people, researchers found that engaging in more frequent sex was associated with greater well-being but that people reported lower well-being when members of their peer group report engaging in more frequent sex than them (Wadsworth, 2014). These results suggest that a person's well-being is not only associated with how much sex *they* are having in their relationship but may also be contingent on how much sex they are having *relative* to other people. What is not yet known is whether people make explicit comparisons between their own sex lives and other people's sex lives, how these comparisons are associated with their sexual and relationship satisfaction, and who might be most likely to make and be most reactive to sexual comparisons.

### Sexual Narcissism and Beliefs About Sexuality

One personality trait we propose that will be particularly influential in shaping how people are affected by social comparisons is narcissism, a trait characterized by a grandiose sense of self and a lack of empathy for others (for a review, see Morf, Torchetti, & Schürch, 2011). With regard to sexuality, compared with those lower in narcissism, narcissists tend to have a sense of sexual entitlement, more frequently using words such as "power" and "dominance," as well as thinking about sex more in terms of personal pleasure rather than emotional intimacy (Foster, Shrira, & Campbell, 2006). Although general narcissism has been linked with a variety of sexual and relational outcomes (for reviews, see Brunell & Campbell, 2011; Widman & McNulty, 2010), the measure used to assess narcissism makes no mention of sexuality (Raskin & Hall, 1979) and thus lacks domain specificity when the main area of interest is sexual outcomes. Thus, the construct of *sexual narcissism* was recently defined, to apply the personality trait of narcissism specifically to the domain of sexuality (Widman & McNulty, 2010). Sexual narcissism is characterized by the same tendency to exploit others, a lack of empathy for others, a pervasive pattern of grandiosity, and an excessive need for validation; however, people high in sexual narcissism express these tendencies specifically in the sexual domain (Widman & McNulty, 2010).

Research has shown that men who are high in sexual narcissism are more likely to be the perpetrators of sexual aggression including compared with men low in sexual narcissism (Widman & McNulty, 2010). Furthermore, people high in sexual narcissism are more likely than those low in sexual narcissism to engage in infidelity in relationships (McNulty & Widman, 2014). Perhaps unsurprisingly then, sexual narcissism is related to steeper declines in sexual and relationship satisfaction as relationships develop, for both those high in sexual narcissism and their romantic partners. Importantly, sexual narcissism was not related to sexual and

relationship satisfaction immediately after people got married, but this is because one facet of sexual narcissism (i.e., sexual skill) was positively related to sexual and relationship satisfaction, whereas two other facets (i.e., sexual entitlement and low sexual empathy) were negatively related to sexual and relationship satisfaction (McNulty & Widman, 2013). Although sexual and general narcissism are moderately correlated ( $r = .44$ ; Widman & McNulty, 2010), all of the effects of sexual narcissism documented in the literature replicate when accounting for general narcissism, and do not replicate with a measure of general narcissism, suggesting that the two constructs are distinct (McNulty & Widman, 2013, 2014; Widman & McNulty, 2010). Given the influence that people high in sexual narcissism have over their partners and their tendency to respond to frustration with aggression (Widman & McNulty, 2010), it is critical to develop an understanding of how they respond to information which may threaten their volatile sense of self.

### Sexual Narcissism and Social Comparisons

The current research is the first that we are aware of which examines how people high in sexual narcissism respond to sexual comparisons. To derive our predictions regarding sexual narcissism, we draw upon past research showing how people high in general narcissism respond to social comparisons. This work has revealed two main findings. First, people high in narcissism tend to seek out more downward social comparisons and feel better as a result. In one study, people higher in narcissism made more downward comparisons than less narcissistic people and reported experiencing more positive affect after making downward comparisons (Bogart, Benotsch, & Pavlovic, 2004). These results suggest that downward comparisons actually boosted their mood, at least temporarily, and may be one way that people high in narcissism maintain their grandiose sense of self. However, because they crave admiration and attention, they will quickly desire more positive feedback from others, meaning that the positive effects of validation from others are relatively short lived (Morf & Rhodewalt, 2001). We expected to obtain similar findings in the sexual domain where those high in sexual narcissism will make more downward sexual comparisons, and will experience a boost in their feelings about their relationship and their sex lives as a result. However, given that narcissists tend to have more fragile self-esteem (Zeigler-Hill, 2006), and are strongly reactive to both positive and negative events (Morf & Rhodewalt, 2001), we expected that those high in sexual narcissism would not show higher sexual and relationship satisfaction overall.

A second finding regarding general narcissism and social comparisons is that when people high in narcissism are forced to make upward social comparisons, they tend to be more strongly affected by them. Indeed, past work has shown that those high in narcissism react particularly

strongly to any threats to the self (Campbell, Reeder, Sedikides, & Elliot, 2000). Thus, when they face upward comparisons, they may perceive this information as particularly threatening to their grandiose self-views. In one study, researchers had narcissists make either upward social comparisons or lateral comparisons (where the participant and the comparison target were doing equally well) to a friend. When narcissists were presented with information showing that their friend had outperformed them on a given task, they reported a significant reduction in closeness to their friend, whereas non-narcissists did not, suggesting that the upward social comparison was particularly influential for narcissists (Nicholls & Stukas, 2011). Based on this work, we expected that people high in sexual narcissism will report lower sexual and relationship satisfaction in response to an upward sexual comparison than those lower in sexual narcissism.

### The Present Research

The present research includes a multimethod set of studies that merge social-psychological research on social comparisons with personality research on narcissism to investigate the types of sexual comparisons that those high in sexual narcissism tend to make, as well as how those comparisons affect their sexual and relationship satisfaction. We tested two sets of hypotheses.

**Hypothesis 1:** Those high in sexual narcissism would seek out more downward comparisons—that is, they would be more likely to compare themselves with people who are having sex less frequently than they are, rather than people who are having sex more frequently than they are, and that they would experience increased sexual and relationship satisfaction after making these comparisons.

**Hypothesis 2:** When people high in sexual narcissism are faced with an upward sexual comparison that they do not choose—that is, when they are presented with information about another person who is having sex more frequently than them—they would report being more bothered by these comparisons than those low in sexual narcissism, and experience lower sexual and relationship satisfaction as a result.

In all three studies, we conducted two additional analyses to rule out an alternative explanation and provide initial evidence for the generalizability of the effects. First, to ensure that our results are specific to sexual narcissism, rather than general narcissism, we controlled for general narcissism, to show that our effects would remain significant with this control, and we replaced sexual narcissism with general narcissism, to show that our pattern of results cannot be replicated with a general narcissism measure. Second, given that men tend to be higher in sexual narcissism than women (McNulty & Widman, 2013), we investigated possible gender differences in the findings.

## Study 1

We investigated whether people who are high in sexual narcissism make more downward social comparisons, and whether this would influence their sexual and relationship satisfaction. We expected that participants high in sexual narcissism would make more downward sexual comparisons, which would, in turn, help them maintain increased sexual and relationship satisfaction immediately after making those comparisons.

### Participants and Procedure

We recruited 203 participants in a romantic relationship from Amazon's Mechanical Turk. We excluded 30 participants because they reported that they had never compared their sex life with another person's sex life, leaving us with a final sample of 173 participants (83 male, 90 female). Participants ranged in age from 20 to 63 ( $M = 32.90$  years,  $SD = 8.81$  years), and the majority (73%) were from a European background; 7% were Asian, 6% Latino, 4% African, 1% Middle Eastern, 1% Native American, and 9% self-identified as "Other." Almost half (45.1%) of the participants were married.

### Measures

Sexual narcissism was measured with a version of the Sexual Narcissism Scale (Widman & McNulty, 2010). Participants rated their agreement with 19 items such as "If I ruled the world for one day, I would have sex with anyone I choose" on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* ( $M = 3.50$ ,  $SD = 0.87$ ,  $\alpha = .86$ ).<sup>1</sup> We measured general narcissism using the Narcissistic Personality Inventory, a 40-item forced choice survey, where participants chose between a more narcissistic item such as "I have a natural talent for influencing people" and a less narcissistic item such as "I am not good at influencing people" ( $M = 0.35$ ,  $SD = 0.21$ ,  $\alpha = .90$ ; Raskin & Hall, 1979). Next, participants were asked to recall a social comparison they had recently made in the domain of sexuality: "Recall the most recent time in which you have compared your own sex life to the sex life of another person. This can be in the form of sexual frequency, specific sexual activities, overall sexual satisfaction, or any other area that you think is relevant." The direction of the comparison was assessed with the item "In the specific domain that you made this comparison, how well were you doing relative to this other person?" rated on a 7-point scale ranging from 1 = *I was doing much worse than the other person* (upward comparison) to 7 = *I was doing much better than the other person* (downward comparison) ( $M = 4.48$ ,  $SD = 1.91$ ). Although social comparisons are typically thought of in a binary way (e.g., a comparison is either upward or downward), we decided to conduct all analyses with our social comparisons item on a continuous scale to

capture the significant variability in the extent to which these comparisons were upward or downward in nature. Sexual satisfaction was assessed with the item "How satisfied did you feel with your own sex life after hearing this information?" rated on a 7-point scale ranging from 1 = *not at all satisfied* to 7 = *very satisfied* ( $M = 4.65$ ,  $SD = 2.06$ ), and relationship satisfaction was assessed with the item "How satisfied did you feel with your own relationship after hearing this information?" on a 7-point scale ranging from 1 = *not at all satisfied* to 7 = *very satisfied* ( $M = 5.17$ ,  $SD = 1.77$ ).

### Results

We analyzed the data in SPSS using the INDIRECT macro (Preacher & Hayes, 2008) to test social comparison direction (upward vs. downward) as a mediator of the links between sexual narcissism and both sexual and relationship satisfaction. We tested all indirect pathways using bootstrapping analyses and generated a 95% confidence interval (CI) with 5,000 simulated samples. The CI is significant at  $p < .05$  when it does not include the value of zero. A post hoc power analysis in G\* Power showed that we had 97% power to detect a medium effect size (Faul, Erdfelder, Lang, & Buchner, 2007).

Once data collection was completed, we developed a coding scheme to quantify in what particular domain of sexuality the comparison had taken place. Based on group discussion, we developed a coding scheme that included eight domains. The most common domain was sexual frequency (64%), followed by variety of sexual positions/acts (10%), level of ability/skill (3%), variety of partners (6%), general sexual satisfaction (3%), amount of intimacy/affection (2%), length of sexual activity (1%), and an "other" domain (11%).

The results provided support for our hypothesis that compared with people lower in sexual narcissism, those higher in sexual narcissism would recall comparisons which were more downward in nature, which, in turn, was associated with increased sexual and relationship satisfaction following the comparison. First, the higher people were in sexual narcissism, the more likely they were to report making a downward comparison in which they were doing better than the person to whom they compared themselves ( $b = .41$ ,  $SE = .16$ ,  $p = .013$ ). Second, the extent to which they felt they were doing better than the other person was associated with greater sexual satisfaction ( $b = .70$ ,  $SE = .07$ ,  $p < .001$ ) and relationship satisfaction ( $b = .56$ ,  $SE = .06$ ,  $p < .001$ ). The direction of the comparison mediated the links between sexual narcissism and sexual satisfaction and relationship satisfaction. That is, people who were higher in sexual narcissism were more likely to recall a downward social comparison, which in turn predicted greater sexual and relationship satisfaction immediately after recalling that comparison (indirect effect 95% CIs = [0.07, 0.54] and [0.04, 0.42], respectively). Furthermore, when the indirect effect was controlled for, the

direct effects from sexual narcissism to sexual ( $b = -.11$ ,  $SE = .14$ ,  $p = .41$ ) and relationship satisfaction were non-significant ( $b = -.09$ ,  $SE = .12$ ,  $p = .50$ ).

**Ruling out alternative explanations.** We conducted several additional analyses to rule out alternative explanations. First, because sexual narcissism and general narcissism were correlated ( $r = .47$ ,  $p < .001$ ), we controlled for general narcissism, and all of our results remained significant, with one exception. The pathway from sexual narcissism and the direction of the comparison dropped to non-significance ( $b = .21$ ,  $SE = .16$ ,  $p = .21$ ), meaning that the indirect effects from sexual narcissism to both sexual and relationship satisfaction were non-significant (indirect effect 95% CIs =  $[-0.10, 0.37]$  and  $[-0.07, 0.31]$ , respectively). Furthermore, we tried replacing sexual narcissism with general narcissism to see whether our results were unique to sexual narcissism. Contrary to our expectations, we found that comparison direction mediated the association between general narcissism and sexual and relationship satisfaction immediately after a comparison (indirect effect 95% CIs =  $[0.51, 2.45]$  and  $[0.43, 2.00]$ , respectively), and that these effects remained consistent even when sexual narcissism was included in the model. Given that previous research on sexual narcissism has documented unique effects of this construct above and beyond more general narcissism (McNulty & Widman, 2013, 2014; Widman & McNulty, 2010), we did not expect these effects to replicate in our next two studies.

We also tested the possibility that gender might moderate some of our predicted effects, but all of the gender moderations that we tested were null with one exception. We found an unexpected moderation by gender for the direction of the comparison ( $b = -.37$ ,  $SE = .16$ ,  $p = .025$ ). To better understand this interaction, we tested the simple slopes separately for men and women. These results showed that the effects were primarily driven by the women in our sample. Specifically, whereas men who were higher in sexual narcissism were not more likely than men low in sexual narcissism to recall downward sexual comparisons ( $b = .06$ ,  $SE = .23$ ,  $p = .79$ ), women who were higher in sexual narcissism were more likely to recall downward sexual comparisons than women low in sexual narcissism ( $b = .80$ ,  $SE = .23$ ,  $p < .001$ ), and thus, the mediation model only held for women. Although this moderation was unexpected, after careful consideration, we expect that it may have been something idiosyncratic to our study design. It is possible that because same-sex friendships between women are marked by more intimate behaviors such as emotional sharing and talking (Caldwell & Peplau, 1982), women who are high in sexual narcissism may be more likely to discuss their sex lives with their romantic partner than men who are high in sexual narcissism. Thus, for highly sexually narcissistic women, conversations about sexuality may be an important way that they maintain their grandiose self-views, whereas men high in sexual narcissism may use other strategies.

## Brief Discussion

When asked to recall social comparisons they had made in their own lives, participants high in sexual narcissism were more likely to recall making downward sexual comparisons than those low in sexual narcissism. In turn, when people felt they were doing better in their sex lives than their comparison target, they experienced greater sexual and relationship satisfaction. The results of this study suggest that people high in sexual narcissism may avoid potentially threatening social comparison information by selectively making downward sexual comparisons.

## Study 2

In our next study, we expected to find that people high in sexual narcissism would feel particularly bad after making upward social comparisons, which would lead to lower sexual and relationship satisfaction. We predicted that relative to those lower in sexual narcissism, people high in sexual narcissism would report being more bothered by upward social comparisons, as well as report feeling better about downward social comparisons, which in turn would both be associated with lower sexual and relationship satisfaction.

## Method

**Participants and procedure.** We recruited 204 participants from Amazon's Mechanical Turk who were currently in a romantic relationship and living with their partner; we excluded three participants for failing an attention check embedded within the survey. The final sample included 201 participants (84 male, 116 female, 1 prefer not to disclose) who ranged in age from 19 to 66 years ( $M = 32.33$ ,  $SD = 10.25$ ) and were from a diverse range of ethnic backgrounds: 62.7% European, 8.0% African, 4.0% Latino, 2.5% Asian, 1.5% Native American, 1% Middle Eastern, and 20.4% "Other." Participants had been in their relationship between 1 month and 46.83 years ( $M = 7.34$  years,  $SD = 7.42$  years), and nearly half (47.8%) were married.

**Measures.** Sexual narcissism was measured with the Sexual Narcissism Scale (Widman & McNulty, 2010;  $M = 3.23$ ,  $SD = 0.87$ ,  $\alpha = .85$ ). General narcissism was measured using the Narcissistic Personality Inventory ( $M = 0.34$ ,  $SD = 0.20$ ,  $\alpha = .89$ ; Raskin & Hall, 1979). To assess participants' sensitivity to upward social comparisons, we asked how much participants would be bothered by upward social comparisons with three target people/groups who we thought would be particularly relevant comparison targets: (a) their best friend, (b) their partner's best friend, and (c) the average couple. For example, to assess sensitivity to upward comparisons, we asked participants "Do you think that it would bother you to find out that your closest friend and his or her partner are having sex more than you and your partner?" and to assess sensitivity to

**Table 1.** Total, Direct, and Indirect Effects for Models With Upward and Downward Social Comparisons Mediating the Association Between Sexual Narcissism and Relationship Outcomes in Study 2.

	Relationship outcomes	
	Sexual satisfaction	Relationship satisfaction
Total effect of sexual narcissism, <i>b</i> (SE)	-.26 <sup>†</sup> (.14)	-.25** (.09)
Direct effect of sexual narcissism, <i>b</i> (SE)	-.23 (.14)	-.19 <sup>†</sup> (.09)
Indirect effect through sensitivity to upward social comparisons, 95% CI	[-0.21, -0.01]	[-0.17, -0.01]
Indirect effect through sensitivity to downward social comparisons, 95% CI	[-0.07, 0.19]	[-0.11, 0.11]

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

downward comparisons, we asked participants “Do you think that it would make you feel good to find out that your closest friend and his or her partner are having sex less than you and your partner?” All items were assessed on a 7-point scale ranging from 1 = *not at all* to 7 = *very much so* ( $M = 2.89$ ,  $SD = 1.70$ ,  $\alpha = .92$ ). To assess sensitivity to downward social comparisons, participants indicated how good they would feel about downward social comparisons with these same three comparison targets on a 7-point scale ranging from 1 = *not at all* to 7 = *very much so* ( $M = 3.24$ ,  $SD = 1.78$ ,  $\alpha = .95$ ). Sexual satisfaction was assessed by asking participants to rate their sex life on five bipolar dimensions—good–bad, pleasant–unpleasant, negative–positive, satisfying–unsatisfying, valuable–worthless—with the Global Measure of Sexual Satisfaction (Lawrance & Byers, 1995). Items were reverse coded so that higher numbers indicate greater sexual satisfaction ( $M = 5.72$ ,  $SD = 1.65$ ,  $\alpha = .98$ ). Relationship satisfaction was assessed with five items such as “I feel satisfied with our relationship” ( $M = 5.82$ ,  $SD = 1.11$ ,  $\alpha = .93$ ; Rusbult, Martz, & Agnew, 1998).

## Results

Our data analytic strategy was identical to that of Study 1. A post hoc power analysis in G\* Power showed that we had 99% power to detect a medium effect size. As shown in Table 1, the results generally supported our predictions. First, sexual narcissism was negatively associated with both sexual satisfaction (although this effect was marginally significant) and relationship satisfaction. Second, the higher people were in sexual narcissism, the more they reported that they would be bothered by making upward social comparisons ( $b = .47$ ,  $SE = .14$ ,  $p < .001$ ), and the more that they reported that they would feel better about making downward social comparisons ( $b = .73$ ,  $SE = .14$ ,  $p < .001$ ). In turn, sensitivity to upward social comparisons predicted lower sexual satisfaction ( $b = -.19$ ,  $SE = .97$ ,  $p = .039$ ) and relationship satisfaction ( $b = -.15$ ,  $SE = .06$ ,  $p = .010$ ). However, sensitivity to downward social comparisons was not significantly associated with either sexual satisfaction ( $b = .07$ ,  $SE = .09$ ,  $p = .408$ ) or relationship satisfaction ( $b = .01$ ,  $SE = .06$ ,  $p = .84$ ), so it did not significantly mediate either of the effects.<sup>2</sup>

**Ruling out alternative explanations.** We again conducted several additional analyses to rule out alternative explanations. First, because sexual narcissism and general narcissism were correlated ( $r = .46$ ,  $p < .001$ ), we ran additional analyses controlling for general narcissism, and all of our results remained significant. Furthermore, we tried replacing sexual narcissism with general narcissism, and as expected and consistent with existing research on sexual narcissism (McNulty & Widman, 2013, 2014; Widman & McNulty, 2010), none of our results replicated with general narcissism. Finally, none of our results were moderated by participant gender.

## Brief Discussion

The results showed that people who were higher in sexual narcissism reported that they would be more bothered by upward social comparisons, and, in turn, reported lower sexual and relationship satisfaction. Although this study provides information about how people who are high in sexual narcissism expect to react to social comparisons, we did not use experimental methods, and thus, we cannot be sure that sensitivity to upward social comparisons causes lower sexual and relationship satisfaction. To address this limitation, in our third study, we randomly assigned participants to imagine making an upward comparison, a downward comparison, or to not make a comparison at all.

## Study 3

In a between-subjects experimental design, we investigated how people high versus low in sexual narcissism react to both upward and downward sexual comparisons versus a no-comparison control. To rule out the possibility that those high versus low in narcissism may be recalling systematically different sexual comparisons, we created standardized sexual comparisons.<sup>3</sup> More specifically, we randomly assigned participants to make either an upward sexual comparison, or a downward sexual comparison, using a fabricated magazine article, or not to make any comparison at all. Participants then indicated how satisfied they felt with their relationship as well as with their sex lives. We expected that in the control condition, those high and low in sexual narcissism would expect to be equally satisfied, whereas in

the upward comparison condition, those high in sexual narcissism would feel significantly less satisfied than those low in sexual narcissism. Finally, in the downward condition, we expected that those high in sexual narcissism would feel significantly more satisfied than those low in sexual narcissism.

### Participants and Procedure

We recruited 809 participants from Amazon's Mechanical Turk. To ensure that the social comparison information we provided regarding the average couple's sexual frequency would be relevant, we recruited participants between the ages of 25 and 34 ( $M = 29.08$  years,  $SD = 3.18$  years), in a sexually active romantic relationship, and living together for at least 1 year. Due to failed attention checks, which were critical to our study, we retained 665 participants in our final sample (322 male, 342 female, 1 prefer not to disclose). Participants had been in their relationships from 1 year to 24 years and 6 months ( $M = 5.83$  years,  $SD = 3.68$  years). In total, 41.1% (273 participants) were married.

### Measures and Procedure

Participants completed the 20-item Sexual Narcissism Scale (Widman & McNulty, 2010) on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* ( $M = 3.45$ ,  $SD = 0.86$ ,  $\alpha = .88$ ). Next, participants were asked about their own level of sexual frequency with the item "On average, how often do you and your romantic partner have sex?" There were 14 response options ranging from "less than once a year" to "multiple times a day" (mode = "about twice a week").

Next, participants were randomly assigned to one of three conditions: a control condition, an upward comparison condition, or a downward comparison condition. Participants in the upward and downward conditions read a fabricated article from University of Toronto magazine (see Online Supplement S1), which purported to reveal new research about the sexual frequency of young couples who are living together (information that was designed to be particularly relevant to our participants). In the upward comparison condition, participants read that the average couple is having sex more frequently than they are, and in the downward comparison condition, participants read that the average couple is having sex less frequently than they are. Participants' reports of their own sexual frequency were used to generate these comparisons, allowing us to keep the discrepancy between the participant's own sexual frequency and the average couple's sexual frequency relatively consistent across different levels of actual sexual frequency (see Online Supplement S2). Participants in the control condition did not read a magazine article and simply moved on to the dependent measures. After the experimental manipulation, participants in the upward and downward conditions completed an attention check. Participants responded to the item "Based on the

information you just read, which statement do you think best represents your own sex life?" with the response options "We are having sex LESS than the average couple," "We are having sex THE SAME AMOUNT as the average couple," or "We are having sex MORE than the average couple." To be included in our final analyses, participants in the upward condition had to select the option "We are having sex LESS than the average couple" (80 fail, 195 pass), whereas those in the downward condition had to select the option "We are having sex MORE than the average couple" (64 fail, 206 pass).

Next, participants were asked about their levels of sexual and relationship satisfaction, as well as their feelings about themselves and their romantic partner. Sexual satisfaction was assessed with the item "How satisfied do you feel with your own sex life right now?" on a 7-point scale ranging from 1 = *not at all satisfied* to 7 = *very satisfied* ( $M = 5.27$ ,  $SD = 1.58$ ), and relationship satisfaction was assessed with the item "How satisfied do you feel with your own relationship right now?" on a 7-point scale from 1 = *not at all satisfied* to 7 = *very satisfied* ( $M = 5.60$ ,  $SD = 1.48$ ).

### Results

**Data analytic strategy.** In this study, we were interested in testing whether participants who are high in sexual narcissism respond to different types of comparisons (upward vs. downward) differently than those who are low in sexual narcissism. Therefore, we tested interactions between condition and sexual narcissism predicting sexual and relationship satisfaction. More specifically, we conducted a moderated multiple regression analysis with sexual narcissism entered as a mean-centered continuous variable and comparison condition entered as two effect-coded variables (Code 1: upward = 1, downward = 0, control = -1; Code 2: upward = 0, downward = 1, control = -1) in the first stage of our model. In the second stage of our model, we entered the interactions between our effect codes and sexual narcissism. We conducted simple effects tests by examining the effect of condition at one standard deviation above and below the mean on sexual narcissism (Aiken, West, & Reno, 1991) and the effect of sexual narcissism in each experimental condition. A power analysis using G\* Power showed that we had more than 95% power to detect a significant interaction effect.

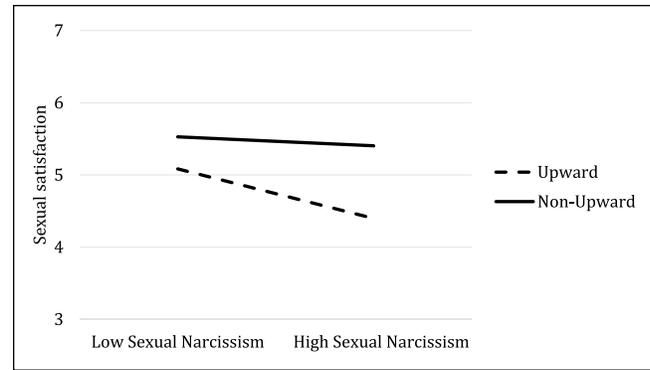
**Main effects.** We began by conducting an ANOVA to determine whether there were differences in sexual or relationship satisfaction for participants in the each of the three conditions. Results revealed a significant effect of condition on sexual satisfaction,  $F(2, 661) = 13.85$ ,  $p < .001$ , and a marginal effect of condition on relationship satisfaction,  $F(2, 661) = 2.46$ ,  $p = .086$ . Tukey post hoc tests revealed that participants in the upward comparison condition felt significantly less sexually satisfied ( $M = 4.79$ ,  $SD = 1.76$ ) than

those in either the downward ( $M = 5.57$ ,  $SD = 1.40$ ,  $p < .001$ ) or control conditions ( $M = 5.39$ ,  $SD = 1.51$ ,  $p < .001$ ), but there were no differences in sexual satisfaction between those in the downward and control conditions ( $p = .427$ ). Furthermore, Tukey post hoc tests in which relationship satisfaction was the outcome variable revealed that participants in the upward comparison condition felt marginally less satisfied with their relationship ( $M = 5.42$ ,  $SD = 1.60$ ) than those in the downward condition ( $M = 5.75$ ,  $SD = 1.32$ ,  $p = .070$ ). However, those in the control condition ( $M = 5.39$ ,  $SD = 1.51$ ) did not differ significantly from those in either the downward comparison condition ( $p = .570$ ) or the upward comparison condition ( $p = .372$ ) in terms of relationship satisfaction. Next, we found that people high in sexual narcissism felt marginally less sexually satisfied ( $b = -.14$ ,  $SE = .07$ ,  $p = .053$ ) and significantly less satisfied with their relationship ( $b = -.21$ ,  $SE = .07$ ,  $p = .002$ ) across the conditions.

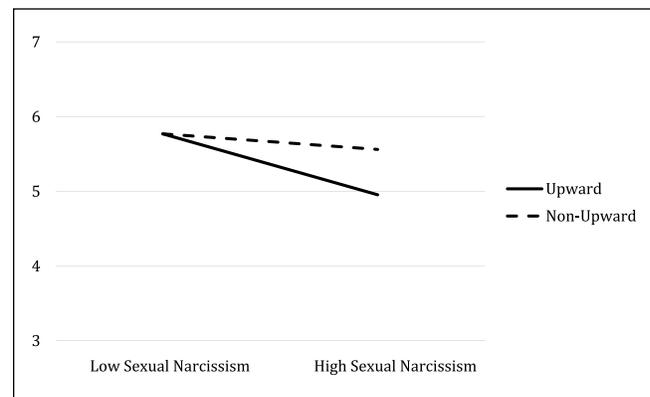
**Interactions between sexual narcissism and comparison condition.** To test our hypotheses that those high in sexual narcissism would be less satisfied than those low in sexual narcissism after an upward comparison, more satisfied after a downward comparison, and equally as satisfied in a no-comparison control condition, we ran a hierarchical regression analysis where sexual narcissism, and two effect codes representing our three conditions were entered at Stage 1, and the interactions between sexual narcissism and each of the effect codes were entered at Stage 2. Contrary to our expectations, we found that these omnibus tests of significance of the interaction between sexual narcissism and condition were non-significant for sexual satisfaction,  $F(5, 658) = 2.21$ ,  $p = .111$ , and marginal for relationship satisfaction,  $F(5, 658) = 2.87$ ,  $p = .057$ .

By probing these interactions further, we found that participants in the downward condition did not differ from those in the control condition with regard to either sexual satisfaction ( $b = -.05$ ,  $SE = .08$ ,  $p = .53$ ) or relationship satisfaction ( $b = -.06$ ,  $SE = .08$ ,  $p = .43$ ). These results suggest that those high in sexual narcissism do not feel any more satisfied than those low in sexual narcissism after making a downward sexual comparison. Thus, we decided to combine the downward condition and the control condition, and focus on comparing those in the upward comparison condition with those in the other two (downward and control) conditions.

Once we combined the downward and control conditions, we were left with two groups, an upward comparison group ( $n = 195$ ) and a non-upward comparison group ( $n = 470$ ). As shown in Figures 1 and 2, we found interactions between sexual narcissism and experimental condition predicting both sexual satisfaction ( $b = -.16$ ,  $SE = .08$ ,  $p = .041$ ) and relationship satisfaction ( $b = -.18$ ,  $SE = .08$ ,  $p = .020$ ). Next, we tested the simple slopes for those high (1  $SD$  above the mean) versus low (1  $SD$  below the mean) in sexual narcissism in each of the two conditions. In the upward comparison



**Figure 1.** Comparison condition and sexual narcissism interacting to predict sexual satisfaction in Study 3.



**Figure 2.** Comparison condition and sexual narcissism interacting to predict relationship satisfaction in Study 3.

condition, those high in sexual narcissism felt significantly less sexually satisfied than those low in sexual narcissism ( $b = -.40$ ,  $SE = .14$ ,  $p = .004$ ), whereas in the non-upward comparison condition, sexual narcissism was not significantly associated with sexual satisfaction ( $b = -.07$ ,  $SE = .08$ ,  $p = .376$ ; see Figure 1). For relationship satisfaction, those high in sexual narcissism in the upward comparison condition felt significantly less satisfied than those low in sexual narcissism ( $b = -.47$ ,  $SE = .13$ ,  $p < .001$ ), whereas in the non-upward comparison condition, sexual narcissism was not significantly associated with sexual satisfaction ( $b = -.12$ ,  $SE = .08$ ,  $p = .11$ ; see Figure 2).<sup>4</sup>

**Ruling out alternative explanations.** We conducted several additional analyses to rule out alternative explanations. First, although sexual narcissism and general narcissism were correlated ( $r = .44$ ,  $p < .001$ ), all of our results remained significant when we controlled for general narcissism. Furthermore, we tried replacing sexual narcissism with general narcissism to see whether our results were unique to sexual narcissism. As we expected, the interaction between general narcissism and condition predicting sexual satisfaction was

non-significant ( $b = -.54$ ,  $SE = .33$ ,  $p = .11$ ). However, contrary to our expectations, the interaction between general narcissism and condition predicting relationship satisfaction was significant ( $b = -.71$ ,  $SE = .32$ ,  $p = .026$ ). Thus, the effects of sexual narcissism on reactions to sexual comparisons occurred above and beyond those of general narcissism, and although our effects on relationship satisfaction did replicate with general narcissism, the general pattern of results across outcomes did not replicate with general narcissism. Finally, none of our results were moderated by participant gender.

### **Brief Discussion**

In Study 3, we found that people high in sexual narcissism felt significantly less satisfied with their sex lives and with their relationship in the upward comparison condition but not in the control condition. However, contrary to our initial expectations, we did not find that people high in sexual narcissism were more satisfied with their sex lives and with their relationship in the downward comparison, as compared with the no-comparison control condition. These results suggest that people high in sexual narcissism are particularly reactive to upward social comparisons, compared with those low in sexual narcissism, but that those high in sexual narcissism are not any more reactive to downward sexual comparisons.

### **Discussion**

In the current research, we showed that people compare their sexual frequency with the frequency of others and that people high in sexual narcissism seem to be especially sensitive to these types of sexual comparisons. Specifically, we demonstrated that people higher in sexual narcissism made more downward comparisons, and in turn, they experienced higher sexual and relationship satisfaction immediately after making these comparisons. Furthermore, we showed that when people high in sexual narcissism were faced with upward sexual comparisons, they reported being more bothered by these comparisons than those low in sexual narcissism, and experienced lower sexual and relationship satisfaction as a result.

### **Sexual Narcissism and Sexual Comparisons**

In Study 1, we found that those who were higher (vs. lower) in sexual narcissism tended to compare themselves with people who they thought were having sex less frequently than they were, and, in turn, felt better about their sex lives and relationships after making these comparisons. It is possible that people high in sexual narcissism may seek out downward sexual comparisons as a way to maintain their grandiose self-views. Indeed, sexual narcissism is characterized by an excessive need for validation (Pincus & Roche, 2011; Widman & McNulty, 2010). Thus, people high in sexual narcissism may seek out more downward sexual comparisons as a way to meet their excessive needs for validation and admiration.

In Studies 2 and 3, we showed that people high in sexual narcissism either expected to experience (Study 2) or actually experienced (Study 3) lower sexual and relationship satisfaction than those low in sexual narcissism after making a hypothetical or actual upward sexual comparison. Indeed, sensitivity to upward social comparisons was an important mechanism by which sexual narcissism was associated with lower sexual and relationship satisfaction (Study 2); furthermore, when people were randomly assigned to make either an upward sexual comparison or a downward comparison or no comparison at all (Study 3), those high in sexual narcissism experienced lower sexual satisfaction compared with those low in sexual narcissism in the upward comparison condition. Overall, these studies show that people high in sexual narcissism were more bothered by upward sexual comparisons, which led to decreased sexual and relationship satisfaction. Taken together, the results of three studies confirmed our prediction that although people high in sexual narcissism made comparisons that were more downward in nature in their day-to-day lives, and experienced higher sexual and relationship satisfaction as a result, their greater sensitivity to upward sexual comparisons ultimately resulted in them feeling worse about their sexual and romantic relationships.

Contrary to our initial expectations, those high in sexual narcissism were not more reactive to downward sexual comparisons than those low in sexual narcissism. Specifically, our prediction in Study 3 that those high in sexual narcissism would feel better after a downward comparison than those low in sexual narcissism was not supported. Instead, following a downward sexual comparison, those low in sexual narcissism were equally as satisfied as those high in sexual narcissism. To understand this result, we broke down our prediction into two parts, our prediction for those high in sexual narcissism, and our prediction for those low in sexual narcissism. For those low in sexual narcissism and in the downward comparison condition, our prediction was confirmed; these people did not feel any more sexually satisfied with their sex lives or their relationships after making a downward sexual comparison than those in the control group. We think this is because those who are low in sexual narcissism were not concerned with outperforming others in the domain of sexuality. However, our prediction that within the downward comparison condition those high in sexual narcissism would report higher sexual and relationship satisfaction than those low in sexual narcissism was not supported. Rather, within the downward condition, those high in sexual narcissism reported equivalent levels of sexual and relationship satisfaction as those low in sexual narcissism. After careful consideration of this unexpected result, we think that those high in sexual narcissism may not have perceived our downward comparison condition as a true downward comparison. In fact, those high in sexual narcissism may have already expected that they were having sex more than other people because they tend to overestimate their sexual skill (Widman & McNulty, 2010) and report making

comparisons which are more downward in nature regularly, as we found in Study 1. Thus, those high in sexual narcissism might have actually *assumed* that they were having sex more than other couples as a default, and thus, they may not have felt better about their romantic relationships as a result of reading a magazine article that confirmed what they had already assumed to be true (that they are having sex more than other couples). Future research could investigate this alternative hypothesis by considering downward sexual comparisons that would not simply confirm how people high in sexual narcissism view themselves, perhaps by presenting people with comparisons where the discrepancy between the comparer and the comparison target is larger than the one that we presented here. A larger discrepancy between the comparer and the target might be necessary to make sexual narcissists feel that they are doing even better than they would have expected, and produce the hypothesized increases in sexual and relationship satisfaction.

### Theoretical Contributions

This is the first research that we are aware of which merges research on social comparisons with research on sexual narcissism to examine the effects of sexual comparisons on sexual and relationship satisfaction. To our knowledge, no past research has focused specifically on the types of comparisons people make in the domain of sexuality. Furthermore, the present research provides the first evidence that we know of which shows that social comparisons can be made in the domain of sexuality, and at the level of the couple. Indeed, a great deal of social comparisons research has shown that people make comparisons of the self (for a review, see Smith et al., 2011), some research has shown that people make comparisons at the level of the couple (Buunk, Oldersma, & de Dreu, 2001), and more recent research shows that people compare their romantic partners with other people (Thai & Lockwood, 2015). However, we are aware of no research which has shown that in romantic relationships, people compare their *sex lives* with the sex lives of other couples. Thus, our work shows that in the sexual domain—which is inherently dyadic in the context of monogamous relationships—people make comparisons at the level of the relationship, which has consequences for their feelings of satisfaction.

Finally, this research provides important insights into the mechanisms by which those high in sexual narcissism have lower sexual and relationship satisfaction (McNulty & Widman, 2013). The current set of studies provides initial insight into the reasons *why* those high in sexual narcissism are less satisfied: They may be especially sensitive to sexual information which threatens their sense of self. This suggests that it would be fruitful to apply concepts from the well-established literature on social comparisons to the study of close relationships to better understand what factors contribute to relationship satisfaction and stability.

The focus on sexual comparisons and sexual narcissism is particularly important because sexuality has been

uniquely linked to narcissism since it was first defined in the psychological literature (Ellis, 1898), and a great deal of research has documented robust links between narcissism and sexual and relational outcomes, such as lower relationship commitment and increased infidelity (see reviews by Brunell & Campbell, 2011; Widman & McNulty, 2010). Furthermore, sexuality has the potential to foster a great deal of satisfaction and intimacy, but it also has a unique potential for harm (see review by Impett et al., 2014). The exploitative behaviors in which people who are high in sexual narcissism engage have enormous potential to cause physical and psychological harm to their partners (Widman & McNulty, 2010). Thus, it is critical for researchers to develop a better understanding of the consequences of sexual narcissism for the quality of people's romantic and sexual relationships.

### Limitations and Future Directions

There are several limitations to the current work which give rise to interesting directions for future research. One limitation is that our research questions may have been clear to participants, and thus, our results may be vulnerable to demand characteristics. We sought to address this limitation in several ways. In Study 2, we asked all of our participants about both upward and downward sexual comparisons to ensure that they would not be primed by thinking about only couples who are doing better or couples who are worse off than they are. Furthermore, in Study 3, we made sure that participants only saw the information relevant to their condition to make our hypotheses less apparent. However, it is still possible that participants in the upward comparison condition concluded that they *should* report lower sexual satisfaction, but this explanation seems unlikely, given that those low in sexual narcissism reported equal levels of sexual and relationship satisfaction in the control and upward comparison conditions. To completely rule out this possibility, additional research could be conducted where social comparison information is presented in a more covert way. For example, couples could be presented with false feedback in the lab suggesting that they are doing poorly compared with other couples in the domain of sexuality. This would allow future researchers to test these effects without the demand characteristics inherent to presenting social comparison information in an online study.

A second limitation is that we focus on comparisons of sexual frequency in Studies 2 and 3 given that this type of comparison is easier to manipulate objectively than other types of comparisons, and Study 1 revealed that this was the most common type of sexual comparison. However, in the future, it will be interesting to investigate other types of sexual comparisons, such as comparisons of sexual quality, specific sexual activities, or sexual variety, to determine whether these findings generalize to other types of sexual comparisons. Given narcissists' orientation toward more agentic goals (Campbell, Brunell, & Finkel, 2006), we would expect

that our effects would generalize to agentic elements of sexuality, such as maintaining novelty and adventure but not communal ones, such as fostering an intimate connection with one's partner.

Another limitation is that we focus on a single member of the romantic couple, which brings up two key issues. First, we are unable to confirm people's reported sexual frequency; thus, it is possible that those high in sexual narcissism may be more likely to exaggerate their sexual frequency. Having both members of the dyad respond to items of sexual frequency would allow us to determine whether people high in sexual narcissism have less agreement in terms of their sexual frequency with their partners than those low in sexual narcissism. Second, we do not know how these comparisons affect the partners of people who are high in sexual narcissism. Indeed, this topic is important because past research shows that dating someone who is high in sexual narcissism has real potential for harm, as they are more likely to aggress against their partners (Widman & McNulty, 2010) and more likely to cheat on their partners (McNulty & Widman, 2013). Thus, future research could focus on how people who are high in sexual narcissism behave toward their romantic partner after making upward sexual comparisons, and how this behavior might influence their partner's sexual satisfaction, relationship satisfaction, or feelings about the self. Given that narcissists tend to be aggressive when their ego is threatened (Bushman & Baumeister, 1998), we would expect that those high in sexual narcissism would be aggressive toward their romantic partner when faced with upward sexual comparisons, which could in turn lead their partner to have lower feelings of self-worth, as well as lower sexual and relationship satisfaction.

Future research should also consider evaluating social comparisons against other strategies that those high in sexual narcissism might use to maintain their grandiose views of their sexual selves. In the present research, we focus specifically on comparisons that those high in sexual narcissism make with other couples. However, it is possible that like narcissists, who seek positive feedback from others to maintain their grandiose self-views (Morf & Rhodewalt, 2001), those high in sexual narcissism would also seek positive feedback from their past and current sexual partners to maintain their grandiose self-views. Both these strategies could be used together to maintain grandiose views of the sexual self, and future research could investigate this possibility.

## Conclusion

The current research provides the first evidence that we are aware of that people compare their own sex lives with the sex lives of others and that these comparisons have implications for their sexual and relationship satisfaction. Specifically, we showed that people who are high in sexual narcissism selectively make more downward sexual comparisons than those low in sexual narcissism, and that this leads to increases in sexual and relationship satisfaction immediately after those

comparisons take place. However, when they are faced with upward sexual comparisons, people high in sexual narcissism experience lower sexual and relationship satisfaction than those low in sexual narcissism. This work is important as it merges social-psychological research on social comparisons with personality research on narcissism to provide insights into who might be most reactive to social comparisons in the uniquely intimate domain of sexuality.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work has been funded by an Insight Grant from the Social Sciences and Humanities Research Council (SSHRC) awarded to Emily A. Impett and Amy Muise, an SSHRC Banting Postdoctoral Fellowship awarded to Amy Muise, and an SSHRC Doctoral Fellowship awarded to Lisa C. Day.

## Supplemental Material

The online supplemental material is available at <http://pspb.sagepub.com/supplemental>.

## Notes

1. Due to a technical error, one of the original 20 items (i.e., "I rarely know what my sexual partners are thinking or feeling") was inadvertently excluded from the survey questions.
2. Results replicate with each of the six items individually, with the exception that the 95% confidence interval (CI) for the indirect effect using the mediator "To what extent would it bother you to find out that your best friend is having sex more than you" included zero (indirect effect 95% CI = [-0.14, 0.004]).
3. We conducted an additional experimental study in which participants imagined making either an upward comparison, a downward comparison, or no comparison at all, which generally replicates our pattern of results. However, because this study added relatively little beyond Study 3, we moved it to an online supplement. Please see Online Supplement S3 for more information.
4. All of the results presented for this study remain consistent when we compare the upward comparison condition with the original control condition.

## References

- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: SAGE.
- Bogart, L. M., Benotsch, E. G., & Pavlovic, J. D. P. (2004). Feeling superior but threatened: The relation of narcissism to social comparison. *Basic and Applied Social Psychology, 26*, 35-44. doi:10.1207/s15324834basp2601\_4
- Brunell, A. B., & Campbell, W. K. (2011). Narcissism and romantic relationships. In W. K. Campbell & J. D. Miller (Eds.), *The handbook of narcissism and narcissistic personality disorders: Theoretical approaches, empirical findings and treatments* (pp. 344-350). Hoboken, NJ: John Wiley.

- Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology, 75*, 219-229. doi: 10.1037/0022-3514.75.1.219
- Buunk, A. P., Grooten, H. A., & Siero, F. W. (2007). Social comparison and satisfaction with one's social life. *Journal of Social and Personal Relationships, 24*, 197-205. doi:10.1177/0265407507075410
- Buunk, B. P., Oldersma, F. L., & de Dreu, C. K. W. (2001). Enhancing satisfaction through downward comparison: The role of relational discontent and individual differences in social comparison orientation. *Journal of Experimental Social Psychology, 37*, 452-467. doi: 10.1006/jesp.2000.1465
- Caldwell, M. A., & Peplau, L. A. (1982). Sex differences in same-sex friendship. *Sex Roles, 8*, 721-732.
- Campbell, W. K., Brunell, A. B., & Finkel, E. J. (2006). Narcissism, interpersonal self-regulation, and romantic relationships: An agency model approach. In K. D. Vohs, & E. J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 57-83). New York, NY: Guilford Press.
- Campbell, W. K., Reeder, G. D., Sedikides, C., & Elliot, A. J. (2000). Narcissism and comparative self-enhancement strategies. *Journal of Research in Personality, 34*, 329-347. doi:10.1006/jrpe.2000.2282
- Ellis, H. (1898). Auto-eroticism: A psychological study. *Alienist and Neurologist, 19*, 260-299.
- Escobar-Chaves, S. L., Tortolero, S. R., Markham, C. M., Low, B. J., Eitel, P., & Thickstun, P. (2005). Impact of the media on adolescent sexual attitudes and behaviors. *Pediatrics, 116*, 303-326. doi:10.1542/peds.2005-0355D
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191. doi: 10.3758/BF03193146
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140.
- Foster, J. D., Shrir, I., & Campbell, W. K. (2006). Theoretical models of narcissism, sexuality, and relationship commitment. *Journal of Social and Personal Relationships, 23*, 367-386. doi:10.1177/0265407506064204
- Impett, E. A., Muise, A., & Peragine, D. (2013). Sexuality in the context of relationships. In L. Diamond and D. Tolman (Eds.), *APA Handbook of Sexuality and Psychology* (Vol 1, pp. 269-316). Washington DC: American Psychological Association.
- Lawrance, K. A., & Byers, E. S. (1995). Sexual satisfaction in long-term heterosexual relationships: The interpersonal exchange model of sexual satisfaction. *Personal Relationships, 2*, 267-285. doi:10.1111/j.1475-6811.1995.tb00092.x
- McNulty, J. K., & Widman, L. (2013). The implications of sexual narcissism for sexual and marital satisfaction. *Archives of Sexual Behavior, 42*, 1021-1032. doi:10.1007/s10508-012-0041-5
- McNulty, J. K., & Widman, L. (2014). Sexual narcissism and infidelity in early marriage. *Archives of Sexual Behavior, 43*, 1315-1325. doi:10.1007/s10508-014-0282-6
- Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry, 12*, 177-196. doi:10.1207/S15327965PLI1204\_1
- Morf, C. C., Torchetti, L., & Schürch, E. (2011). Narcissism from the perspective of the dynamic self-regulatory processing model. In W. K. Campbell & J. D. Miller (Eds.), *The handbook of narcissism and narcissistic personality disorders: Theoretical approaches, empirical findings and treatments* (pp. 56-70). Hoboken, NJ: John Wiley.
- Morse, S., & Gergen, K. J. (1970). Social comparison, self-consistency, and the concept of self. *Journal of Personality and Social Psychology, 16*, 148-156. doi: 10.1037/h0029862
- Muise, A., Schimmack, U., & Impett, E. A. (2016). Sexual frequency predicts greater well-being in romantic relationships, but more is not always better. *Social Psychological and Personality Science, 7*, 295-302.
- Nicholls, E., & Stukas, A. A. (2011). Narcissism and the self-evaluation maintenance model: Effects of social comparison threats on relationship closeness. *The Journal of Social Psychology, 151*, 201-212. doi:10.1080/00224540903510852
- Pincus, A. L., & Roche, M. J. (2011). Narcissistic grandiosity and narcissistic vulnerability. In W. K. Campbell & J. D. Miller (Eds.), *The handbook of narcissism and narcissistic personality disorders: Theoretical approaches, empirical findings and treatments* (pp. 31-40). Hoboken, NJ: John Wiley.
- Pinkus, R. T., Lockwood, P., Schimmack, U., & Fournier, M. A. (2008). For better and for worse: Everyday social comparisons between romantic partners. *Journal of Personality and Social Psychology, 95*, 1180-1201. doi:10.1037/0022-3514.95.5.1180
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891. doi:10.3758/BRM.40.3.879
- Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports, 45*, 590. doi:10.2466/pr0.1979.45.2.590
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357-387. doi:10.1111/j.1475-6811.1998.tb00177.x
- Smith, A., Lyons, A., Ferris, J., Richters, J., Pitts, M., Shelley, J., & Simpson, J. M. (2011). Sexual and relationship satisfaction among heterosexual men and women: The importance of desired frequency of sex. *Journal of Sex & Marital Therapy, 37*, 104-115. doi:10.1080/0092623X.2011.560531
- Tesser, A., Millar, M., & Moore, J. (1988). Some affective consequences of social comparison and reflection processes: The pain and pleasure of being close. *Journal of Personality and Social Psychology, 54*, 49-61. doi:10.1037/0022-3514.54.1.49
- Thai, S., & Lockwood, P. (2015). Comparing you = comparing me: Social comparisons of the expanded self. *Personality and Social Psychology Bulletin, 41*, 989-1004. doi:10.1177/0146167215588094
- Wadsworth, T. (2014). Sex and the pursuit of happiness: How other people's sex lives are related to our sense of well-being. *Social Indicators Research, 116*, 115-135. doi:10.1007/s11205-013-0267-1
- Widman, L., & McNulty, J. K. (2010). Sexual narcissism and the perpetration of sexual aggression. *Archives of Sexual Behavior, 39*, 926-939. doi:10.1007/s10508-008-9461-7
- Wood, J. V. (1989). Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin, 106*, 231-248. doi: 10.1037/0033-2909.106.2.231
- Zeigler-Hill, V. (2006). Discrepancies between implicit and explicit self-esteem: Implications for narcissism and self-esteem instability. *Journal of Personality, 74*, 119-144. doi:10.1111/j.1467-6494.2005.00371.x