Sexual Narcissism and Social Comparisons in the Domain of Sexuality

by
Lisa Day
A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Department of Psychology
University of Toronto

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Abstract

The current investigation shows that people in romantic relationships compare their sex lives to the sex lives of other people and that these comparisons influence sexual and relationship satisfaction. Specifically, I show that those who are high in sexual narcissism, people who have a grandiose sense of their sexual self, and a lack of empathy for their sexual partners (Widman & McNulty, 2010), are more reactive than those who are lower in sexual narcissism to sexual comparisons to superior relationships because they feel that unfavourable sexual comparisons suggest that their partner is not good enough for them. In Study 1, I found that those high in sexual narcissism were more likely to recall downward sexual comparisons, which boosted their sexual and relationship satisfaction. In Study 2, I found that those high in sexual narcissism reported that they would be more bothered by upward sexual comparisons, which in turn predicted lower sexual and relationship satisfaction. In Studies 3 and 4, I showed that those high in sexual narcissism felt less sexual and relationship satisfaction after an upward sexual comparison, compared to those low in sexual narcissism. In Studies 5 and 6, I showed that sexual narcissists were more bothered by upward comparisons due to concerns about the partner being inferior. In Study 7, I found that those high in sexual narcissism make marginally more downward sexual comparisons, which predicts higher daily sexual and relationship satisfaction. Collectively, the current findings suggest that people do make comparisons in a variety of sexual domains in their day-to-day lives, and that these comparisons have predictable
consequences for sexual and relationship satisfaction. Further, this research suggest that sexual narcissism is an important individual difference variable in determining how people make and respond to sexual comparisons in the context of their relationships.
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Chapter 1
General Introduction

Maintaining a satisfying and stable romantic relationship has been shown to be a key predictor of many important life outcomes. People who maintain satisfying romantic relationships report greater happiness (Diener & Seligman, 2002), better health (Loving & Slatcher, 2013), more financial stability (Waite & Gallagher, 2000), and better overall well-being (Baumeister & Leary, 1995). Over the past several decades, the field of relationships research has recognized that maintaining satisfying relationships is important to people’s overall quality of life, and responded by focusing a great deal of attention on factors within relationships that promote satisfaction and stability. For example, relationships researchers have shown that happy relationships tend to have securely attached partners (Koski & Shaver, 1997), partners who are willing to make sacrifices for one another (Van Lange, Rusbult, Drigotas, Arriaga, Witcher, & Cox, 1997), partners who maintain communal norms (Clark, Lemay, Graham, Pataki, & Finkel, 2010) and have a sexual frequency of at least once per week (Muise, Schimmack, & Impett, 2016). Importantly, all of this work has focused on influences that come from within the relationship, rather than influences that come from external sources. To date, relatively little research has focused on how factors outside of a given romantic relationship can influence partners’ satisfaction. However, there is evidence to suggest that relationship satisfaction is influenced by factors from outside the relationship. For example, couples with lower incomes and lower status occupations are more likely to divorce (Wilcox & Marquardt, 2010), and couples who experience more stressors that are external to their relationship tend to be less satisfied over time (Neff & Karney, 2004). Further, in one study of over 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).

In the present research, I take a multi-method approach to understanding relationship quality and consider how influences from outside of the relationship predict sexual and relationship satisfaction. Specifically, I focus on how the information that people receive about other people’s sexual relationships, predicts sexual and relationship satisfaction. I argue that what people learn about other people’s sexual relationships will play a role in determining their own sexual and relationship satisfaction because people will make social comparisons when they receive information about other people’s sex lives. Further, I argue that the individual difference variable sexual narcissism will play a key role in determining the effect that social comparisons related to sexuality will have on sexual and relationship satisfaction, as those high in sexual narcissism will react more strongly to social comparisons related sexuality. Finally, I argue that those high in sexual narcissism will react more strongly to sexual comparisons because those comparisons will negatively impact how they feel about their romantic partners, which will in turn, make them less satisfied with their sex lives and relationships.

In Western culture, we are presented with information about sexuality in conversations with friends, television shows, movies, and magazines (Escobar-Chaves et. al., 2005). Yet, recent research—including a nationally representative sample of more than 25,000 people in the U.S.—shows that, on average, couples in long-term relationships report engaging in sex about once per week (Muise et al., 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? 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 if 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 to others.

One factor I 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, I expect 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 to people who are having sex less frequently than they are—possibly as a way to maintain their grandiose self-views. Further, I expect that compared to 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. Finally, I expect that people who are high in sexual narcissism will be bothered by upward sexual comparisons because they might suggest that their romantic partner is somehow inferior to other potential partners. In the current studies, I combine literature on social comparisons (Festinger, 1954; Pinkus, Lockwood,
Schimmack, & Fournier, 2008) and sexual narcissism (McNulty & Widman, 2013; Widman & McNulty, 2010) in order to understand how often and in what ways people compare their own sex lives to those of other people. Further, I seek to understand how and why those comparisons influence sexual and relationship satisfaction. Specifically, I aim to answer several questions divided into two broad themes. First, I am interested in understanding the role that sexual comparisons play in people’s everyday lives. Specifically, I am interested in understanding how frequently people make sexual comparisons, what types of sexual comparisons people generally make in their day-to-day lives and how those sexual comparisons influence people’s sexual and relationship satisfaction. Second, I am interested in understanding the role that sexual narcissism plays in determining people’s responses to sexual comparisons. Specifically, I would like to develop a better understanding of how those high in sexual narcissism respond to upward and downward comparisons differently than those low in sexual narcissism. Further, if I find that those high in sexual narcissism are more bothered by sexual comparisons, I would like to develop a better understanding of why this is the case.

1 Social Comparisons

A social comparison takes place anytime one person compares themselves to another person in a particular domain (Festinger, 1954). Past research on social comparisons has found that people make social comparisons quite frequently in their daily lives, and that they can have a powerful influence on how people feel about themselves. Indeed, in one study in which participants were asked to record all of the social comparisons they made over a three-day period, the researchers found that on average, participants made about seven social comparisons, or just over two comparisons per day (Bogart, Benotsch & Pavlovic, 2004). Further even relatively benign social comparisons can have an influence on how people feel about themselves. For example, in one study, university students
waited in a room next to either a disorganized, disheveled college student or a well-dressed, competent-looking student. Later, those who sat with the well-dressed student reported lower self-esteem than those who sat with the disorganized one, presumably because those who sat next to the well-dressed person felt that they looked worse by comparison (Morse & Gergen, 1970).

Social comparisons come in two directions, upward and downward (Festinger, 1954). When people make an upward social comparison, they compare themselves to someone who is doing better than them in a given domain. Alternatively, when they make a downward social comparison, they compare themselves to someone who is doing worse than them. Further, 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 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). Thus, past research has shown that people make social comparisons on a regular basis, and that these comparisons influence the way that people feel about themselves. Although researchers have investigated social comparisons across a variety of traits including intelligence, attractiveness, talent, social skills, and personal attributes (Buunk, Groothof, Hinke, & Siero, 2007; Pinkus, Lockwood, Schimmack & Fournier, 2008; Tesser, Miller & Moore, 1988), I am 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* to others who are doing “better” than them (having more frequent sex than they are) might be upsetting and comparisons to others who are doing “worse” (having less frequent sex) might feel good. Indeed, in one study of over 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. However, to date no research has investigated whether or not people make comparisons in the domain of sexuality, and if so, how often people make these types of comparisons. Further, no research has investigated how these comparisons are associated with sexual and relationship satisfaction, and who might be most likely to make and be most reactive to sexual comparisons.

2 Narcissism and Sexual Narcissism

One personality trait I propose 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). Narcissism has been linked to a variety of sexual and relational outcomes (for a review see Brunell & Campbell, 2011). Generally, narcissists are quite successful at initiating romantic relationships (Rhodewalt & Eddings, 2002) because in the short term, narcissists are judged to be outgoing, charming, and entertaining (Paulhus, 1998). However, over time, narcissists encounter more relationship problems. Specifically, people who are high in narcissism report that they are often on the lookout for a “better” romantic
partner, and this, in turn, predicts lower commitment to their current romantic relationship (Campbell & Foster, 2002). People who are high in narcissism value romantic partners with highly agentic traits. Specifically, those high in narcissism report that they would be more interested in a potential romantic partner who is attractive, intelligent and charming, than in a partner who is caring (Campbell, 1999). Further, narcissists adopt a game playing love style as a means of maintaining power in their romantic relationships Campbell et. al., 2002).

In the domain of sexuality, compared to 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). However, 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, in order 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 compared to men low in sexual narcissism (Widman & McNulty, 2010). Further, 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, both for 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 that available research suggests that people high in sexual narcissism tend 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. The current research is the first to examine how people high in sexual narcissism respond to sexual comparisons.

3 Narcissism and Social Comparisons

To derive my predictions regarding sexual narcissism, I draw upon past research in two broad categories. In order to inform my predictions on the effect of sexual comparisons on sexual and relationship satisfaction for those high and low in sexual narcissism, I draw upon work showing how people high in general narcissism respond to social comparisons. Although sexual narcissism and general narcissism are distinct, past research has found that the two are moderately correlated ($r = .44, p < .001$; Widman & McNulty, 2010). Thus, although I borrow from literature on general narcissism and social comparisons in order to inform my predictions on why those high in sexual narcissism react more negatively to sexual comparisons, I do not expect that results I find for those high in sexual narcissism will replicate for those high in general narcissism. In the present research, I borrow from work on general narcissism showing that narcissists are hostile, domineering and
arrogant (Paulhus, 1998) and tend to blame others for group failures (Campbell, Reeder, Sedikides, & Elliott, 2000). I chose to draw upon this literature to generate predictions about sexual narcissists’ reactions to sexual comparisons, because to my knowledge, no literature has directly assessed why narcissists are bothered by upward social comparisons.

The work on narcissism and social comparisons 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). I 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), I 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, while non-narcissists did not, suggesting that the upward social comparison was particularly influential for narcissists (Nicholls & Stukas, 2011). Based on this work, I 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 work on how people who are high in narcissism respond to failures has revealed one key finding. At a first meeting, narcissists are rated to be more confident, entertaining, and intelligent than non-narcissists. However, after seven weekly meetings, narcissists were still thought of as being more confident, but were also thought of as being less warm, and more hostile and arrogant than those who are low in narcissism (Paulhus, 1998). One of the reasons that narcissists may develop such unfavourable impressions in the long-term is that they tend to take credit for successes and blame other for failures (Campbell, Reeder, Sedikides & Elliott, 2000). Thus, the past research shows that narcissists tend to face more difficulties in their romantic relationships (see Brunell & Campbell 2011) and blame others for perceived failures (Campbell, Reeder, Sedikides & Elliott, 2000). Taken together, these results suggest that if a narcissist were faced with an upward comparison in their relationship, they might be particularly likely to blame their romantic partner, and feel less satisfied with their relationship as a result.
4 Overview of Current Studies

The present research includes a multi-method 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 impact their sexual and relationship satisfaction. I tested four sets of hypotheses. First, I hypothesized that those high in sexual narcissism would seek out more downward comparisons—that is, they would be more likely to compare themselves to 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. Second, I expected that 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. Third, I expected that those high in sexual narcissism would report that they are bothered by upward sexual comparisons for reasons relating to feeling like their partners are not meeting their standards, rather than reasons related to concerns around their partners leaving them, or to concerns about their own relationship being inferior. Finally, I expected that those who are high in sexual narcissism would make comparisons more frequently in their day-to-day lives, and that these comparisons would be more likely to be downward in nature.
Chapter 2

Narcissism and Downward Social Comparisons

In Study 1, I had several broad goals. First, I wanted to show that people do make social comparisons in the domain of sexuality, despite the fact that it is an intensely private domain for most people. Second, I sought to understand the types of sexual comparisons that people who are high and low in sexual narcissism actually make. Specifically, I was interested in understanding both the direction (e.g. upward, downward or lateral) of the comparisons that people typically make, as well as the domain of sexuality (e.g. sexual frequency, sexual variety) in which they tend to make these comparisons. Finally, I wanted to show that those high in sexual narcissism would make more downward sexual comparisons, and experience greater sexual and relationship satisfaction as a result.

Based on previous research showing that people make an average of 1.8 comparisons per day in a wide variety of domains such as physical appearance, lifestyle and skills (Wheeler & Miyake, 1991) I expected that participants would be able to recall a recent sexual comparison. Further, given that past research shows that people make downward comparisons more often than upward comparisons, I expected that people would be more likely to recall downward comparisons. Further, given that narcissists tend to make more downward social comparisons in their day-to-day lives (Bogart, Benotsch, & Pavlovic, 2004) and that downward comparisons at the relationship level have been shown to predict increases in relationship satisfaction (Buunk, Oldersma, & de Dreu, 2001). I 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.
1 Study 1 Method

1.1 Participants and Procedure

I recruited 203 participants in a romantic relationship from Amazon’s Mechanical Turk. I excluded 30 participants because they reported that they had never compared their sex life to another person’s sex life, leaving me with a final sample of 173 participants (83 males, 90 females). 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.

Sexual narcissism was measured with a version of the Sexual Narcissism Scale\(^1\) (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 ($M = 3.50$, $SD = 0.87$, $\alpha = .86$; see Table 1 for subscale information). I 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; see Table 2 for subscale information). To assess general sexual satisfaction, participants answered five questions from the Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995) to measure their sexual satisfaction. Items were rated on 7-point bipolar scales: bad–good, unpleasant–pleasant, negative–positive, unsatisfying–satisfying, worthless–valuable ($M = 5.74$ $SD = 1.39$, $\alpha = .97$). Next, to assess general relationship

\(^1\) 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.
satisfaction, participant responded to the Perceived Relationship Quality Components Inventory (PRQC; Fletcher, Simpson, & Thomas, 2000). Items were rated on a 7-point scale ranging from 1 = not at all to 7 = a lot ($M = 5.91$, $SD = 0.99$, $\alpha = .96$). 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) I decided to conduct all analyses with the social comparisons item on a continuous scale in order to capture the significant variability in the extent to which these comparisons were upward or downward in nature. Sexual satisfaction immediately after the comparison 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 after the comparison 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 ($M = 5.17$, $SD = 1.77$).
2 Study 1 Results

I analyzed the data in SPSS using the INDIRECT macro (Preacher & Hayes, 2008) to test social comparison direction (upward versus downward) as a mediator of the links between sexual narcissism and both sexual and relationship satisfaction. I tested all indirect pathways using bootstrapping analyses and generated a 95% confidence interval with 5,000 simulated samples. The confidence interval is significant at $p < .05$ when it does not include the value of zero. A post hoc power analysis in G Power showed that I had 96% power to detect a medium effect size (Faul, Erdfelder, Lang & Buchner, 2007).

Once data collection was completed, I developed a coding scheme to quantify in what particular domain of sexuality the comparison had taken place. Based on group discussion, I 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%). Further, as I expected, downward comparisons were the most common (44.8%), followed by upward comparisons (28.2%) and lateral comparisons (26.6%).

The results provided support for my hypothesis that compared to 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 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 after that comparison \( (b = .70, SE = .07, p < .001) \) and relationship satisfaction after that comparison \( (b = .56, SE = .06, p < .001) \). 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: .07, .54 & .04, .42, respectively). Further, 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 \( (b = -.09, SE = .12, p = .50) \).

2.1 Ruling Out Alternative Explanations

I conducted several additional analyses to rule out alternative explanations. First, because sexual narcissism and general narcissism were correlated \( (r = .47, p < .001) \), I controlled for general narcissism, and all of the 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 CIs95\%: -.10, .37 & -.07, .31; respectively). Further, I tried replacing sexual narcissism with general narcissism to see if the results were unique to sexual narcissism. Contrary to my expectations, I found that comparison direction mediated the association between general narcissism and sexual and relationship satisfaction immediately after a comparison (indirect effect 95% CIs: .51, 2.45; .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), I did not expect these effects to replicate in the next two studies.

I also tested the possibility that increased sexual and relationship satisfaction could be mediating the relationship between sexual narcissism and comparison direction. In order to run this analysis, I used a general measure of sexual and relationship satisfaction, which participants responded to before responding to any items regarding sexual comparisons. I used these general measures of sexual and relationship satisfaction because my outcome measures asked about sexual and relationship satisfaction immediately after the comparison took place, and thus it would not make conceptual sense to use this variable as the mediator between sexual narcissism and sexual comparison direction. As I expected, neither general sexual satisfaction nor general relationship satisfaction mediated the relationship between sexual narcissism and sexual comparison direction (indirect effect 95% CIs: -.16, .04; -.19, .02; respectively).

Finally, I tested the possibility that gender might moderate some of my predicted effects, but all of the gender moderations that I tested were null with one exception. I found an unexpected moderation by gender for the direction of the comparison \( (b = -.37, SE = .16, p = .025) \). In order to better understand this interaction, I tested the simple slopes separately for men and women. These results showed that the effects were primarily driven by the women in the 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, I expect that it may have been
something idiosyncratic to the 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.

3 Brief Discussion of Study 1

In Study 1, 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. Due to the correlational nature of this data, we cannot make firm conclusions about the direction of these effects. Thus, 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, but future research should continue to investigate the causal direction of these effects.
Chapter 3

Sexual Narcissism and Upward Sexual Comparisons

In Study 2, I sought to understand how sexual narcissists would expect to respond to upward sexual comparisons. Given that past research has shown that people high in narcissism reacted more negatively to upward comparisons in general (Nicholls & Stukas, 2011). I 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. Specifically, I 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.

1 Study 2 Method

1.1 Participants and Procedure

I recruited 204 participants from Amazon’s Mechanical Turk who were currently in a romantic relationship and living with their partner; I excluded 3 participants for failing an attention check embedded within the survey. The final sample included 201 participants (84 males, 116 females, 1 prefer not to disclose) who ranged in age from 19 to 66 years old ($M = 32.33, SD = 10.25$) 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, 20.4% “other.” Participants had been in their relationship between one month and 46.83 years ($M = 7.34$ years, $SD = 7.42$ years), and nearly half (47.8%) were married. Sexual narcissism was measured with the Sexual Narcissism Scale (Widman
& McNulty, 2010; $M = 3.23$, $SD = 0.87$, $\alpha = .85$; see Table 1 for subscale information). General narcissism was measured using the Narcissistic Personality Inventory, $(M = 0.34$ $SD = 0.20$, $\alpha = .89$; Raskin & Hall, 1979; see Table 2 for subscale information). To assess participants’ sensitivity to upward social comparisons, I asked how much participants would be bothered by upward social comparisons to three target people/groups who I thought would be particularly relevant comparison targets: (1) their best friend, (2) their partner’s best friend and (3) the average couple. For example, to assess sensitivity to upward comparisons, I asked participants “Do you think that it would bother you to find out that your closest friend and his/her partner are having sex more than you and your partner?” and to assess sensitivity to downward comparisons, I asked participants “Do you think that it would make you feel good to find out that your closest friend and his/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 to 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, positive-negative, satisfying-unsatisfying, valuable-worthless with the Global Measure of Sexual Satisfaction (Lawrance, Byers & Cohen, 1998). 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).
2 Study 2 Results

I analyzed the data in SPSS using the INDIRECT macro (Preacher & Hayes, 2008). I tested all indirect pathways using bootstrapping analyses and generated a 95% confidence interval with 5,000 simulated samples. The confidence interval is significant at \( p < .05 \) when it does not include the value of zero. A post hoc-power analysis in G Power showed that I had 98% power to detect a medium effect size (Faul, Erdfelder, Lang & Buchner, 2007).

As shown in Table 3, the results generally supported my 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 \(^2\).
2.1 Ruling Out Alternative Explanations

I again conducted several additional analyses to rule out alternative explanations. First, because sexual narcissism and general narcissism were correlated ($r = .46, p < .001$), I ran additional analyses controlling for general narcissism, and all of the results remained significant. Further, I 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 the results replicated with general narcissism. Finally, none of the results were moderated by participant gender.

3 Brief Discussion of Study 2

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, I did not use experimental methods, and thus I cannot be sure that sensitivity to upward social comparisons causes lower sexual and relationship satisfaction. To address this limitation, in my third study, I randomly assigned participants to imagine making an upward comparison, a downward comparison or to not make a comparison at all.
Chapter 4

Experimentally Manipulating Sexual Comparisons

In Study 2, I showed that sexual narcissists expected to be more bothered by sexual comparisons, which in turn predicted lower expected sexual and relationship satisfaction. However, Study 2 relied on correlational research methods, which limit my ability to make conclusions about the causal direction of these effects. Thus, to address this limitation, I sought to experimentally manipulate sexual comparison direction in Studies 3 and 4. In this study, I employed a between-subjects design where I randomly assigned participants to imagine themselves making either an upward comparison, a downward comparison or no comparison at all of their sexual frequency to their best friend’s sexual frequency. I expected that people who were high in sexual narcissism would feel better about downward sexual comparisons and worse about upward sexual comparisons than those low in sexual narcissism.

1 Study 3 Method

1.1 Participants and Procedure

I recruited 811 participants from Amazon’s Mechanical Turk. Participants ranged in age from 18 to 83 years ($M = 34.15$ years, $SD = 10.53$ years), and all were in a sexually active romantic relationship. Due to failed attention checks, which were critical to the study, I retained 662 participants in my final sample (275 males, 383 females, 4 prefer not to disclose). Participants had been in their relationships from one month to 50 years and 11 months ($M = 7.27$ years, $SD = 7.28$ years). In total 79.2% (524 participants were living with their romantic partner, and 49.7% (329 participants) were married.
1.2 Measures

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 ($M = 3.31$, $SD = 0.85$, $\alpha = .88$; see Table 1 for subscale information). General narcissism was measured using the Narcissistic Personality Inventory, ($M = 0.32$ $SD = 0.20$, $\alpha = .89$; Raskin & Hall, 1979; see Table 2 for subscale information). 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, I asked participants to imagine themselves discussing their sexual frequency with their best friend, because past research shows that close friends are very relevant comparison targets (Thaler, 1989). Specifically, all participants were asked to “Imagine yourself in a situation in which you and your best friend are talking about your current sexual relationship with your romantic partner. You disclose to your best friend the ways in which your sexual needs are being met, as well as the current sexual difficulties in your romantic relationship. You disclose to your friend that you are engaging in sex ___ times per year/month/week/day” (please see Appendix A for response options). At this point, participants who had been randomly assigned to the no comparison control condition completed the dependent measures. Alternatively, those in the upward and downward comparison conditions were asked to imagine that their best friend replied by saying that they are either having more frequent sex (upward comparison) or less frequent sex (downward comparison) than them. The participants’ reports of their own sexual frequency were used to generate these comparisons, a design feature which allowed me to keep the discrepancy between each participant’s own sexual frequency and
their friend’s sexual frequency relatively consistent across different levels of actual sexual frequency
(please see Appendix A for additional comparison information). In the upward comparison condition
participants read the following prompt “. . . Now, imagine that your best friend discloses to you that
he or she is in a sexual relationship where their sexual needs are being met completely, and informs
you that they are having sex __ times per year/month/week/day”. Finally, those in the downward
comparison condition read “. . . Now, imagine that your best friend discloses to you that he or she is
in a sexual relationship where their sexual needs are not really being met and informs you that they
are having sex __ times per year/month/week/day.”

After the experimental manipulation, participants completed two items that assessed attention to the
experimental manipulation. Because having participants who were aware of the scenario that they
asked to imagine was absolutely critical to the study, participants needed to answer both of these
questions correctly to be included in the final analyses. First, participants were asked “On a previous
page, you were asked to imagine yourself telling your best friend about how often you have sex.
Were you asked to imagine anything about how often your best friend has sex?” with the response
options “yes” or “no.” If participants responded with “yes” to this question, they answered the
question: “In the previous scenario, were you asked to imagine that your best friend was having sex
MORE often than you and your partner, or LESS often than you and your partner?” with the
response options “my best friend was having sex MORE often” and “my best friend was having sex
less often.” The correct answer to this attention check depended on the specific experimental
condition to which the participant had been assigned. Participants in the control condition had to
respond with “no” to the first question (18 fail, 239 pass). Participants in the upward comparison
condition had to respond with “yes” to the first question and “my best friend was having sex more
often” (67 fail, 208 pass). Participants in the downward condition had to respond with “my best friend was having sex less often” (63 fail, 216 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 would you feel with your own sex life after hearing this information?” on a 7-point scale ranging from 1 = not at all satisfied to 7 = very satisfied ($M = 4.89, SD = 1.53$); and relationship satisfaction was assessed with the item “How satisfied would you feel with your own relationship after hearing this information?” on a 7-point scale from 1 = not at all satisfied to 7 = very satisfied ($M = 5.16, SD = 1.41$).

2 Study 3 Results

I analyzed the data in SPSS Version 23.0 (IBM, 2016). A post hoc-power analysis in G Power showed that I had 99% power to detect a medium effect size (Faul, Erdfelder, Lang & Buchner, 2007).

In this study, I was interested in testing whether participants who are high in sexual narcissism respond to different types of comparisons (upward versus downward) differently than those who are low in sexual narcissism. Therefore, I tested interactions between condition and sexual narcissism predicting sexual satisfaction. More specifically, I 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 my model. In the second stage of the model, I entered the interactions between the effect codes and sexual narcissism. I conducted
simple effects tests by examining the effect of condition at one standard deviation above and below the mean on sexual narcissism (Aiken & West, 1991) and the effect of sexual narcissism in each experimental condition.

I began by conducting an analysis of variance (ANOVA) in order to determine whether there were differences in sexual or relationship satisfaction for participants in each of the three conditions. Results revealed significant effects of condition on sexual satisfaction, \(F(2, 659) = 14.39, p < .001\) and relationship satisfaction, \(F(2, 655) = 7.78, p = .001\). Tukey post-hoc tests revealed that participants in the downward comparison condition expected to feel significantly more sexually satisfied (\(M = 4.89, SD = 1.53\)) than those in either the upward (\(M = 4.67, SD = 1.75, p < .001\)) or those in the control conditions (\(M = 4.67, SD = 1.35, p < .001\)), but there were no differences in sexual satisfaction between those in the upward and the control conditions (\(p = 1.00\)). Further, Tukey post-hoc tests in which relationship satisfaction was the outcome variable revealed that participants in the downward comparison condition expected to feel significantly more satisfied with their relationship (\(M = 5.47, SD = 1.27\)) than those in the upward condition (\(M = 5.05, SD = 1.58, p = .007\)) or those in the control condition (\(M = 4.98, SD = 1.33, p = .001\)) but there were no differences in sexual satisfaction between those in the upward and the control conditions (\(p = .856\)).

Next, I found that people high in sexual narcissism expected to feel more sexually satisfied (\(b = .16, SE = .07, p = .019\)) but not any more satisfied with their relationship (\(b = .04, SE = .06, p = .512\)) across the conditions.

In order to test my 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, I ran a hierarchical regression analysis.
where sexual narcissism, and two effect codes representing the three conditions were entered at stage one, and the interactions between sexual narcissism and each of the effect codes were entered at stage two. I found that these omnibus tests of significance showed a significant interaction between condition predicting sexual satisfaction, \( F(5, 655) = 8.90, p < .001 \) and relationship satisfaction \( F(5, 661) = 4.79, p < .001 \).

By probing these interactions further, I found that the downward condition did not differ from the control condition with regard to either sexual satisfaction \( (b = -.08, SE = .08, p = .266) \) or relationship satisfaction \( (b = -.11, SE = .07, p = .104) \). This result suggests 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, I decided to combine the downward condition and the control condition, and focus on comparing those in the upward comparison condition to those in the other two (downward and control) conditions.

Once I combined the downward and the control conditions, I was left with two groups, an upward comparison group, which had 207 participants, and a non-upward comparison group, which had 455 participants in it. As shown in Figures 1 and 2, I found an interaction between sexual narcissism and experimental condition predicting both sexual satisfaction \( (b = -.24, SE = .08, p = .002) \) and relationship satisfaction \( (b = -.18, SE = .07, p = .017) \). Next, I 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 control condition, those high in sexual narcissism expected to feel more sexually satisfied than those low in sexual narcissism \( (b = .30, SE = .08, p < .001) \). Alternatively, in the upward comparison condition, those high in sexual narcissism did not expect to feel more or less sexually satisfied than those low in sexual narcissism \( (b = -.18, SE = .13, p = .173) \). For relationship
satisfaction, in the control condition, those high in sexual narcissism expected to feel marginally more sexually satisfied than those low in sexual narcissism \((b = .14, SE = .07, p = .068)\).

Alternatively, in the upward comparison condition, those high in sexual narcissism expected to feel marginally less satisfied with their relationship than those low in sexual narcissism \((b = -.21, SE = .13, p = .089)\).

### 2.1 Ruling Out Alternative Explanations

In order to bolster my confidence in these effects, I conducted several additional analyses to rule out alternative explanations. First, because sexual narcissism and general narcissism were correlated \((r = .49, p < .001)\), I wanted to rule out the possibility that the results were driven by general narcissism. As I expected, the pattern of results remained the same when I controlled for general narcissism. Further, I tried replacing sexual narcissism with general narcissism to see if the results were unique to sexual narcissism. As I expected, none of the results replicated when I replaced sexual narcissism with general narcissism. Thus, the effects of sexual narcissism on reactions to sexual comparisons occurred above and beyond those of general narcissism, and did not replicate with general narcissism. Finally, I tested to see if any of the results were moderated by gender. As I expected, none of the results were moderated by gender.

### 3 Brief Discussion of Study 3

This study generally supported my hypothesis that people high in sexual narcissism would be more sensitive to upward social comparison information than those low in sexual narcissism. However, the specific effects were slightly different than my predictions. Given that in past research sexual narcissism has not predicted sexual satisfaction at the time of first marriage, but has been associated with steeper declines in sexual and marital satisfaction (McNulty & Widman, 2013), I expected that
in the control condition, participants high and low in sexual narcissism would report equal levels of sexual and relationship satisfaction. Alternatively, I expected that in the upward condition, those high in sexual narcissism would report significantly lower sexual and relationship satisfaction. It is possible that the prompt—in which participants imagined telling their best friend about their own sexual frequency—may have inadvertently served as a downward sexual comparison manipulation for those high in sexual narcissism, but not those low in sexual narcissism.

4 Study 4 Method

In this study, I sought to replicate the results of Study 3 with real, rather than imagined sexual comparisons. I 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, I expected that those high in sexual narcissism would feel significantly more satisfied than those low in sexual narcissism.

4.1 Participants and Procedure

I recruited 809 participants from Amazon’s Mechanical Turk. In order to ensure that the social comparison information I provided regarding the average couple’s sexual frequency would be relevant, I 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 one year. Due to failed attention checks, which were critical to the study, I retained 665 participants in the final sample (322 male, 342 female, 1 prefer not to disclose). Participants had been in their relationships from one year to 24 years and 6 months ($M = 5.83$ years, $SD = 3.68$ years). In total 41.1% (273 participants) were married.
4.2 Methods

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* ($M = 3.45, SD = 0.86, \alpha = .88$). General narcissism was measured using the Narcissistic Personality Inventory, ($M = 0.35 \ SD = 0.21, \alpha = .90$; Raskin & Hall, 1979; see Table 2 for subscale information). 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 U of T magazine (see Appendices B and C, respectively), 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 the 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 me 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 Appendix A). 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.” In order to be included in the 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 ($M = 5.60$, $SD = 1.48$).

5 Study 4 Results

I analyzed the data in SPSS Version 23.0 (IBM, 2016). A post hoc-power analysis in G Power showed that I had 99% power to detect a medium effect size (Faul, Erdfelder, Lang & Buchner, 2007).

In this study, I was interested in testing whether participants who are high in sexual narcissism respond to different types of comparisons (upward versus downward) differently than those who are low in sexual narcissism. Therefore, I tested interactions between condition and sexual narcissism predicting sexual and relationship satisfaction. More specifically, I 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 the model. In the second stage of the model, I entered the interactions between the effect codes and sexual narcissism. I conducted simple effects tests by examining the effect of condition at one standard deviation above and below the mean on sexual narcissism (Aiken & West, 1991) and the effect of sexual narcissism in each experimental condition. A power analysis using G power showed that I had over 95% power to detect a significant interaction effect.

I began by conducting an analysis of variance (ANOVA) in order 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 the control conditions ($M = 5.39, SD = 1.51, p < .001$), but there were no differences in sexual satisfaction between those in the downward and the control conditions ($p = .427$). Further, 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, I 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.

In order to test my 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, I ran a hierarchical regression analysis where sexual narcissism, and two effect codes representing the three conditions were entered at stage one, and the interactions between sexual narcissism and each of the effect codes were entered at stage two. Contrary to my expectations, I 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, I 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, I decided to combine the downward condition and the control condition, and focus on comparing those in the upward comparison condition to those in the other two (downward and control) conditions.

Once I combined the downward and the control conditions, I was 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, I 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, I 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 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 3). 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 4).

5.1 Ruling Out Alternative Explanations

I conducted several additional analyses to rule out alternative explanations. First, although sexual narcissism and general narcissism were correlated ($r = .44, p < .001$), all of the results remained significant when I controlled for general narcissism. Further, I tried replacing sexual narcissism with general narcissism to see if the results were unique to sexual narcissism. As I expected, the interaction between general narcissism and condition predicting sexual satisfaction was non-significant ($b = -.54, SE = .33, p = .11$). However, contrary to my 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 the 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 the results were moderated by participant gender.
6 Brief Discussion of Study 4

In Study 4, I 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 my initial expectations, I 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 to those low in sexual narcissism, but that those high in sexual narcissism are not any more reactive to downward sexual comparisons.
Chapter 5

Why Do Sexual Comparisons Bother Those who are High in Sexual Narcissism?

In Studies 2, 3, and 4, I showed that those who are high in sexual narcissism reported lower sexual and relationship satisfaction than those who are low in sexual narcissism after they imagined (Studies 2 and 3) or were presented with (Study 4) information suggesting that they were having sex less frequently than other people. However, these studies do not explain why those high in sexual narcissism appear to be more strongly influenced than those low in sexual narcissism by upward sexual comparisons. Thus, in Studies 5 and 6, I sought to understand the underlying reasons why upward sexual comparisons bother those who are high in sexual narcissism more than they bother those who are low in sexual narcissism. I expected that those who are high in sexual narcissism would be more bothered by upward sexual comparisons because these types of comparisons might suggest that their partner is not living up to their high standards. Those who are high in narcissism tend to be concerned with feeling superior to other people (Pincus & Roche, 2011), they are often looking for a better partner (Campbell, 1999), they lack commitment to their relationships (Campbell et. al. 2002), and they tend to blame other people for failures more than those who are low in narcissism (Campbell, 1999). Thus, someone who is high in sexual narcissism might be more dissatisfied with their relationship after an upward sexual comparison because it might mean that the sexual narcissist’s partner is inferior. In the present research, I expected that those who were high in sexual narcissism would report that they would be more bothered by an upward sexual comparison for reasons that related to their partner being inferior than would those low in sexual narcissism, but
not for reasons related to themselves or their relationships being inferior.

1 Study 5 Method

1.1 Participants and Procedure

In Study 5, I recruited 302 participants from Amazon’s Mechanical Turk. In order to participate, participants had to be in a sexually active romantic relationship. Participants ranged in age from 18 to 69 ($M = 32.80$ years, $SD = 10.28$ years). Due to failed attention checks, detailed below, which were critical to the study, I retained 285 participants in the final sample (109 male, 176 female). Participants had been in their relationships from two months to 42 years ($M = 7.51$ years, $SD = 7.92$ years). In total 45.3% (129 participants) were married.

1.2 Measures

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 ($M = 3.23$, $SD = 0.86$, $\alpha = .89$). General narcissism was measured using a modified version of the 16-item Narcissistic Personality Inventory. In this version, participants rate their agreement with a narcissistic statement on a 7-point rating scale ranging from 1 = strongly disagree to 7 = strongly agree ($M = 3.88$ $SD = 0.95$, $\alpha = .90$; Ames, Rose, & Anderson, 2005; see Table 2 for subscale information). 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” ($mode = “about once a week”)}. Next, participants read the following prompt, “Imagine yourself in a situation in which you are reading a magazine article about how often a typical couple of the same age and relationship length as you has sex. Imagine that you are having sex __ times per week/month/year and you read that the typical couple is having sex __ times
per week/month/year. Importantly, participants were instructed to imagine that they were having sex at their actual sexual frequency, and that the average couple was having sex more than they were (see Appendix A for more information on what comparisons people were asked to imagine). Next, participants were asked to rate their agreement with several items on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Attention to the prompt was assessed using the item “This would mean that the typical couple is having sex more than me” ($M = 6.03$, $SD = 0.85$). If participants responded with *strongly disagree, disagree, or somewhat disagree*, which respectively corresponded to a one, two, and three on a 7-point scale, they were considered to have failed the attention check and were excluded from analyses (17 participants). Sexual satisfaction was assessed with the item “This information would make me feel less satisfied with my own sex life” ($M = 3.29$, $SD = 1.66$); and relationship satisfaction was assessed with the item “This information would make me feel less satisfied with my own relationship” on a 7-point scale from 1 = *not at all satisfied* to 7 = *very satisfied* ($M = 3.00$, $SD = 1.66$). Next, participants were asked “How much would this information bother or upset you?” on a 7-point scale ranging from 1 = *Not at All* to 7 = *Extremely* ($M = 2.45$, $SD = 1.56$).

If participants selected a response of a “2” or higher on a 7-point scale, indicating that this information would bother them at least a little bit (176 participants; 62% of the sample), then they were asked questions about why this information would bother them. Specifically, based on open ended responses in a pilot version of this task, as well as relevant theories, I developed a list of 25 items (see Appendix D) addressing why participants might be bothered by finding out that the typical couple is having sex more frequently than them. All of the items began with the question stem “This information would bother or upset me…” and were answered on a 5-point scale ranging
from 1 = Not at all to 5 = Very much so. Specifically, I drew upon theories of narcissism (see Brunell & Campbell, 2011 for a review) to develop a list of ten items which would tap concerns around the partner being inferior (e.g. “because it might mean that my partner is not living up to my standards”). I drew upon theories of unmitigated communion (Helgeson & Fritz, 1999) to develop a list of eight items which would tap concerns around the self being inferior (e.g. “because it might mean that my partner will leave me”). Finally, I drew upon theories of communal motivation to develop a list of seven items (Mills & Clark, 1982) which would tap concerns around the relationship being inferior (e.g. “because it means my partner and I are missing out on opportunities for sexual connection”). Importantly, I expected these items to load onto three unique factors representing each of the three reasons for why someone might be bothered by an upward sexual comparison.

2 Study 5 Results

I analyzed the data in SPSS using the INDIRECT macro (Preacher & Hayes, 2008). I tested all indirect pathways using bootstrapping analyses and generated a 95% confidence interval with 5,000 simulated samples. The confidence interval is significant at $p < .05$ when it does not include the value of zero. A post hoc-power analysis in G Power showed that I had 96% power to detect a medium effect size (Faul, Erdfelder, Lang & Buchner, 2007).

2.1 Factor Analysis of Reasons

In order to establish the reliability of the measure of why people might be bothered by sexual comparisons, I conducted an exploratory factor analysis using maximum likelihood estimation and an oblique (promax) rotation (e.g. Costello & Osborne, 2005; Fabrigar et al., 1999; Fabrigar, & Wegener, 2012). As determined using the scree plot method (Cattell, 1966), the items loaded onto three factors (see Figure 5), which together, accounted for 67% of the variance in the scale (see
Appendix D for complete list of items). As such, I conducted a subsequent set of analyses to extract three factors and then retained items that had factor loadings greater than 0.7 and cross-loadings lower than 0.2 (Comrey & Lee, 1992; Costello & Osborne, 2005). In order to ensure that I included enough items in each of the subscales to maintain adequate reliability, I included two items that were just outside of the cutoffs. Specifically, I included one item that had a factor loading of .69 and one item that had a cross-loading of .20. This procedure yielded a final three-factor model consisting of 15 items (see Appendix E for final items). The final scale included five partner-inferiority focused items ($M = 2.02, SD = 1.03, \alpha = .90$), five self-inferiority focused items ($M = 2.88, SD = 1.17, \alpha = .89$), and five relationship-inferiority focused items ($M = 2.98, SD = 1.13, \alpha = .91$).

2.2 Primary Results

My first hypothesis was that those high in sexual narcissism would be more likely to report being bothered by sexual comparisons for reasons relating to their partner being inferior, but not for reasons related to self or relationship inferiority. As I expected, those who were high in sexual narcissism reported that they would be more bothered than those low in sexual narcissism by finding out that the average couple is having sex more frequently than them because of partner-focused inferiority reasons ($b = 0.61, SE = 0.08, p < .001$). Further, as I expected people who were high in sexual narcissism were not more bothered than those low in sexual narcissism by self-inferiority focused reasons about not being good enough for a partner ($b = 0.09, SE = 0.10, p = .362$).

Somewhat unexpectedly, people who were high in sexual narcissism were also more bothered than those who are low in sexual narcissism by relationship-focused reasons ($b = 0.19, SE = 0.10, p = .047$). That is, the higher people were in sexual narcissism, the more they indicated that they would
be bothered by an upward sexual comparison because of concerns of their relationship being inferior.

Due to the relatively high correlation between partner-focused reasons and relationship-focused reasons ($r = .48, p < .001$), I decided to test the relationship between sexual narcissism and each of these reasons for being bothered by upward comparisons, controlling for the other type of reasons. That is, I investigated to see if sexual narcissism still predicted partner-focused reasons for being bothered by an upward sexual comparison once relationship-focused reasons were controlled for, and similarly, I investigated to see if sexual narcissism predicted relationship-focused reasons for being bothered by an upward sexual comparison once partner-focused reasons were controlled for. As I expected, I found that sexual narcissism still predicted partner-focused reasons when relationship-focused reasons were controlled for ($b = 0.54, SE = 0.07, p < .001$). Alternatively, sexual narcissism did not predict relationship-focused reasons when partner-focused reasons were controlled for ($b = -0.18, SE = 0.10, p = .076$). In fact, this analysis suggests that when partner-focused reasons are controlled for, those high in sexual narcissism are marginally less concerned with relationship-focused concerns. Overall, these results provided support for my hypothesis that compared to people lower in sexual narcissism, those higher in sexual narcissism would report being more bothered by reasons that were related to their partner being inferior.

2.3 Mediation Results

My second hypothesis was that being bothered by upward sexual comparisons for partner-inferiority focused reasons would mediate the relationships between sexual narcissism and sexual and relationship satisfaction. Specifically, I expected that those high in sexual narcissism would be more
bothered by upward sexual comparisons due to partner-inferiority focused reasons, which in turn would be associated with decreased sexual and relationship satisfaction following the comparison. Indeed and as reported above, those high in sexual narcissism reported that they would be more bothered by an upward sexual comparison because of partner-focused inferiority reasons than those low in sexual narcissism ($b = 0.61, SE = 0.08, p < .001$). Second, the extent to which participants were bothered by a sexual comparison for partner-inferiority reasons predicted lower sexual satisfaction ($b = 0.40, SE = 0.12, p < .001$) and relationship satisfaction ($b = 0.57, SE = 0.12, p < .001$) even when the effect of sexual narcissism was controlled for. Most importantly, the extent to which people were bothered by a sexual comparison because of partner-inferiority focused reasons mediated the links between sexual narcissism and both sexual and relationship satisfaction (indirect effect 95% CIs: .09, .45 & .14, .60, respectively). Further, when the indirect effect was controlled for, the direct effects from sexual narcissism to lower sexual satisfaction ($b = 0.12, SE = 0.13, p = .363$) and lower relationship satisfaction ($b = 0.27, SE = 0.14, p = .061$) were non-significant and marginal, respectively.

2.4 Ruling Out Alternative Explanations

In order to rule out possible alternative explanations, I ran several additional analyses. First, because sexual narcissism and general narcissism were correlated ($r = .57, p < .001$), I controlled for general narcissism. I found that the mediations with partner-focused reasons remained statistically significant. Further, I tried replacing sexual narcissism with general narcissism to see if the results were unique to sexual narcissism. Contrary to expectations, I found that partner-focused reasons for being bothered did mediate the relationship between general narcissism and sexual and relationship satisfaction (indirect effect 95% CIs: .03, .23 & .03, .33, respectively). However, if sexual narcissism
is controlled for, the indirect effects of general narcissism to sexual and relationship satisfaction through partner-focused inferiority reasons because non-significant. Thus, although there is some weak evidence that general narcissism could play a role in these effects, the evidence suggests that sexual narcissism is a much better predictor of partner-focused reasons and sexual and relationship satisfaction. Finally, I tested to see if any of the effects in any of the models were moderated by gender. As I expected, none of the results were moderated by participant gender.

3 Brief Discussion of Study 5

In Study 5, I found that those who were higher in sexual narcissism were more likely to report that an upward sexual comparison would bother them for reasons that were related to their partner being inferior to others. Participants were not more likely to report that they were more likely to be bothered by reasons relating to the self or the relationship being inferior. As I expected, partner inferiority reasons mediated the link between sexual narcissism and the expectation of diminished sexual and relationship satisfaction immediately after making an upward sexual comparison.

4 Study 6 Methods

In Study 6, I had two key objectives. First, I wanted to replicate the results in the upward comparison condition of Study 4. Specifically, I wanted to show once again that those high in sexual narcissism would report lower sexual and relationship satisfaction after reading a magazine article which stated that they were having sex less than the average couple of the same age and relationship length. Second, I wanted to replicate the results of Study 5 in a non-hypothetical context. In Study 5, I found that in a hypothetical scenario, those high in sexual narcissism expected that they would be more bothered by a sexual comparison for reasons relating to their partner being inferior, but not to
themselves or their relationship being inferior. In Study 6, I wanted to show that this result would replicate when people were exposed to real upward sexual comparisons.

4.1 Participants and Procedure

In Study 6, I recruited 486 participants from Amazon’s Mechanical Turk. As in Study 4, in order to participate, participants had to be between the ages of 25 and 34 (M = 29.98 years, SD = 2.88 years), in a sexually active romantic relationship, and living together for at least one year. Due to failed attention checks, detailed below, which were critical to the study, I retained 323 participants in the final sample (155 male, 168 female). Participants had been in their relationships from two months to 42 years (M = 6.55 years, SD = 4.01 years). In total 54% (174 participants) were married.

4.2 Measures

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 = 3.22, SD = 0.81, α = .87). General narcissism was measured using a modified version of the 16-item Narcissistic Personality Inventory. In this version, participants rate their agreement with a narcissistic statement on a 7-point rating scale ranging from 1 = strongly disagree to 7 = strongly agree (M = 3.76 SD = 1.06, α = .92; Ames, Rose, & Anderson, 2005; see Table 2 for subscale information). 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 once a week”). Next, as in the upward comparison condition in Study 4, participants read a fabricated article from U of T magazine (see Appendix B), which purported to reveal new research about the sexual frequency of young couples who are living together. Participants read that the average couple is having sex more frequently than they are.
Participants’ reports of their own sexual frequency were used to generate these comparisons, allowing me 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 Appendix A). After reading the magazine article, participants 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.” In order to be included in the final analyses, participants had to select the option “we are having sex LESS than the average couple” (163 fail, 323 pass).

Next, participants were asked about their levels of sexual and relationship satisfaction. 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 = 4.92, SD = 1.63); 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 = 5.66, SD = 1.48). Next, participants were asked “To what extent did the information presented in this article bother or upset you?” on a 7-point scale ranging from 1 = Not at All to 7 = Extremely (M = 2.53, SD = 1.48).

As in Study 5, if participants selected a response of a “2” or higher on a 7-point scale, indicating that this information would bother them at least a little bit (206 participants; 64% of the sample), then they were asked questions about why this information would bother them. Specifically, based on the
factor analysis presented in Study 5, I asked participants a total of 15 items which addressed why participants might be bothered by the information presented in this article. The items were shown in Study 5 to load onto three unique concerns around participants’ partners being inferior ($M = 2.05$, $SD = 0.99$, $\alpha = .88$), around the self being inferior ($M = 2.64$, $SD = 1.13$, $\alpha = .88$), or around the relationship being inferior ($M = 3.29$, $SD = 1.09$, $\alpha = .91$; see Appendix E for items).

5 Study 6 Results

I analyzed the data in SPSS using the PROCESS macro (Preacher & Hayes, 2008). My data analytic strategy was identical to that of Study 5. A post hoc-power analysis in G Power showed that I had 99% power to detect a medium effect size.

5.1 Primary Results

My first hypothesis was that I would replicate the results of Study 4, showing that those high in sexual narcissism are less satisfied than those low in sexual narcissism after an upward sexual comparison. As I expected, those high in sexual narcissism reported lower sexual ($b = -0.40$, $SE = 0.11$, $p < .001$) and relationship satisfaction ($b = -0.32$, $SE = 0.10$, $p = .001$). My second hypothesis was that, replicating the results of Study 5, those higher in sexual narcissism would report being more bothered by reasons that were related to their partner being inferior, but not for reasons related to self or relationship inferiority, compared to those who are lower in sexual narcissism. As I expected, those who were high in sexual narcissism reported that they would be more bothered by finding out that the average couple is having sex more frequently than them because of partner-focused inferiority reasons than those low in sexual narcissism ($b = 0.65$, $SE = 0.09$, $p < .001$). Somewhat unexpectedly, people who were high in sexual narcissism were marginally more bothered by self-inferiority focused reasons about not being good enough for a partner than people low in
sexual narcissism \((b = 0.19, SE = 0.12, p = .094)\). Finally, as I expected, people who were high in sexual narcissism were not more bothered by relationship-focused reasons than those low in sexual narcissism \((b = 0.13, SE = 0.11, p = .236)\).

Given that I found an unexpected association between sexual narcissism and self-inferiority focused reasons, I used the same strategy as I used in Study 5 to evaluate the significant associations I found further. Specifically, because self-focused reasons for being bothered and partner-focused reasons for being bothered were moderately correlated \((r = .28, p < .001)\), I decided to test the relationship between sexual narcissism and each of these outcomes, controlling for the other outcome. That is, I investigated to see if sexual narcissism still predicted partner-focused reasons for being bothered by an upward sexual comparison once self-focused reasons were controlled for, and similarly, I investigated to see if sexual narcissism predicted self-focused reasons for being bothered by an upward sexual comparison once partner-focused reasons were controlled for. As I expected, I found that sexual narcissism still predicted partner-focused reasons when self-focused reasons were controlled for \((b = 0.61, SE = 0.09, p < .001)\). Alternatively, when partner-focused reasons are controlled for, the association between sexual narcissism and self-focused reasons is approximately zero \((b = -0.01, SE = 0.13, p = .921)\). This suggests that the marginal relationship between sexual narcissism and self-inferiority focused reasons for being bothered by an upward sexual comparison is not a reliable effect.

5.2 Mediation Results

My second hypothesis was that being bothered by upward sexual comparisons for partner-inferiority focused reasons would mediate the associations between sexual narcissism and sexual and
relationship satisfaction. Specifically, I expected that those high in sexual narcissism would be more bothered by upward sexual comparisons due to partner-inferiority focused reasons, which in turn would be associated with decreased sexual and relationship satisfaction following the comparison. Indeed, those high in sexual narcissism reported that they were more bothered by an upward sexual comparison because of partner-focused inferiority reasons \( (b = 0.65, SE = 0.09, p < .001) \). In turn, the extent to which participants were bothered by a sexual comparison for partner-inferiority reasons predicted lower sexual satisfaction \( (b = -0.44, SE = 0.12, p < .001) \) and relationship satisfaction \( (b = -0.48, SE = 0.11, p < .001) \), even when the effect of sexual narcissism was controlled for. Most importantly, the extent to which people were bothered by a sexual comparison because of partner-inferiority focused reasons mediated the links between sexual narcissism and sexual and relationship satisfaction \( \text{indirect effect 95% CIs: } -.48, -.13 \& -.51, -.15, \text{ respectively} \).

5.3 Ruling Out Alternative Explanations
In order to rule out possible alternative explanations, I ran several analyses. First, because sexual narcissism and general narcissism were correlated \( (r = .56, p < .001) \), I controlled for general narcissism. As I expected, all results remained significant. Further, I tried replacing sexual narcissism with general narcissism to see if the results were unique to sexual narcissism. Contrary to expectations, I found that partner-focused reasons for being bothered did mediate the relationship between general narcissism and sexual and relationship satisfaction \( \text{indirect effect 95% CIs: } -.24, -.07 \& -.26, -.09, \text{ respectively} \). However, if sexual narcissism is controlled for, the indirect effects of general narcissism to sexual and relationship satisfaction through partner-focused inferiority reasons are non-significant. Thus, although there is some weak evidence that general narcissism could play a role in these effects, the evidence suggests that sexual narcissism is a much better predictor of partner-focused reasons and sexual and relationship satisfaction.
Finally, I tested to see if any of the effects were moderated by gender. I found an unexpected interaction between sexual narcissism and gender predicting sexual satisfaction \((b = 0.60, SE = 0.28, p = .032)\), and marginally predicting relationship satisfaction \((b = 0.46, SE = 0.26, p = .070)\). In order to better understand these interactions, I tested the simple slopes separately for men and women. These results showed that the effects were primarily driven by the women in the sample. Specifically, men who were higher in sexual narcissism did not report lower sexual \((b = -0.16, SE = .20, p = .421)\) or relationship satisfaction \((b = -0.10, SE = .18, p = .597)\) than those lower in sexual narcissism. Alternatively, women who were higher in sexual narcissism reported lower sexual \((b = -0.76, SE = .20, p < .001)\) and relationship satisfaction \((b = -0.56, SE = .18, p = .002)\) than those lower in sexual narcissism. This unexpected gender moderation is similar to the gender moderation I found in Study 1, in which sexual narcissism significantly predicted making more downward sexual comparisons for women, but not for men. Taken together, these results provide some, albeit inconsistent, support for the notion that sexual comparisons may be particularly relevant for women, rather than men who are high in sexual narcissism.

6 Brief Discussion of Study 6

In Study 6, I found that those who were higher in sexual narcissism were more likely to report that an upward sexual comparison bothered them for reasons that were related to their partner being inferior to others. Participants were not more likely to report that they were more likely to be bothered by reasons relating to the self being inferior, or to the relationship being inferior. As I expected, partner inferiority reasons mediated the link between sexual narcissism and lower sexual and relationship satisfaction immediately after making an upward sexual comparison. In this study, I
also found an unexpected gender moderation, where women who were higher in sexual narcissism reported lower sexual and relationship satisfaction after an upward sexual comparison, but this did not generalize to men. Importantly, this gender moderation has not replicated in any of the studies I conducted, with the exception of Study 1.
Chapter 6
Sexual Narcissism and Sexual Comparisons in Daily Life

In Study 7, I sought to understand how often those high in sexual narcissism make upward and downward sexual comparisons in their daily lives, and how upward and downward comparisons encountered in the context of daily life influence how people feel about their own relationships and sex lives.

1 Study 7 Method

1.1 Participants and Procedure

Participants were recruited from the Greater Toronto Area through online advertisements posted on Craigslist and Kijiji as well as flyers posted in locations around the GTA. In order to be eligible to participate, participants had to be over the age of 18, be currently involved in a sexual relationship, and have been living with their romantic partner for at least two years. Eligible couples emailed a research assistant, who then spoke on the phone with each member of the couple separately in order to gain consent to participate. During this phone call, participants were asked some basic questions (e.g. “Where did you and your partner meet?”) in order to verify that they were really a couple.

I collected data from a total of 197 participants (96 men, 101 women). This data includes 100 couples, and one individual whose partners were recruited for the study, but did not complete it. Eighty-nine of the participants (44%) reported being in a cohabitation relationship with their partner, 13 (7%) were engaged, and 94 (48%) were married.
Participants began by completing several individual difference measures, most of which are unrelated to the current investigation in a background survey. 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* ($M = 3.27$, $SD = 0.78$, $\alpha = .85$).

### 1.2 Daily Measures

Each day before they went to bed, participants completed several questionnaires about events that had taken place in their relationship that day. Each day, participants answered five questions from the Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995) to measure their sexual satisfaction. Items were rated on 7-point bipolar scales: bad–good, unpleasant–pleasant, negative–positive, unsatisfying–satisfying, worthless–valuable ($M = 4.95$, $SD = 1.63$, $\alpha = .98$). Next, participants answered seven questions from the Perceived Relationship Quality Components Inventory (PRQC; Fletcher, Simpson, & Thomas, 2000) designed to assess their overall relationship quality. All items began with the question stem “Today, with regard to my relationship, I felt:” Items were, *satisfied, committed, connected, passionate, love for my partner, I could count on my partner, and understood, validated & cared for by my partner*. Items were rated on a 7-point scale ranging from 1 = *not at all* to 7 = *a lot* ($M = 5.62$, $SD = 1.38$, $\alpha = .95$). In order to assess whether participants had made any sexual comparisons that day, participants responded to the item: “Sometimes in our relationships, we think about how our sex life compares to that of other people. At any point today, did you compare your sex life to the sex life of anyone else?” If participants did report making a sexual comparison that day, they responded to the item “When you made this comparison, how well were you doing relative to this other person?” on a 7-point scale ranging from 1 = *I was doing much worse than the other person* to 7 = *I was doing much better than the other*. 
\textit{person} with a midpoint of 4 = \textit{The other person and I were doing equally well} (M = 3.14, SD = 1.85). Sexual and Relationship Satisfaction were assessed.

2 Study 7 Results

I analyzed the data with multilevel modelling using mixed models in SPSS Version 23.0 (IBM, 2016). I tested a two-level cross model with random intercepts where persons are nested within dyads, and person and days are crossed to account for the fact that both partners completed the daily surveys on the same days (Kenny, Kashy, & Cook, 2006). To avoid confounding within and between-person effects, I used techniques appropriate for a multilevel framework, partitioning the Level 1 predictor (i.e., social comparison direction) into its within- and between-variance components, which were person-mean centered and aggregated, respectively (Zhang, Zyphur, & Preacher, 2009). To test the hypothesized mediations, I used the Monte Carlo Method of Assessing Mediation (MCMAM; Selig & Preacher, 2008) with 20,000 resamples and 95% CIs to test the significance of the indirect effects.

2.1 Descriptive Analyses of Sexual Comparisons Over the Diary

My first goal was to assess how frequently people make sexual comparisons in their day-to-day lives. I found that on the majority (96.3%) of days (4450 days total), people did not report making any sexual comparisons. However, people did report making sexual comparisons on a total of 173 days (3.7%). The number of social comparisons that people made throughout the diary ranged from zero to 14. Overall, 133 participants (67.9%) reported that they made no sexual comparisons throughout the diary, and 63 participants (32.1%) reported making at least one sexual comparison over the course of the diary. Those who are high in sexual narcissism made slightly, though non-
significantly more sexual comparisons over the course of the diary \((b = .27, SE = .18, p = .137)\). Of the 173 comparisons recorded over the course of the diary, 99 of them (57.2%) were upward in nature, 44 (25.4%) comparisons were lateral, and 30 (17.3%) were downward in nature. Contrary to my expectations, those who were high in sexual narcissism were no more likely to report making downward sexual comparisons than people who are low in sexual narcissism \((b = .27, SE = .25, p = .289)\). However, the effect was in the expected direction, despite being non-significant.

2.2 Mediation Analyses of Sexual Comparisons

Given the complexity of computing power in multi-level designs, I did not compute a formal power analysis. However, because participants needed to have at least two data points at level one to contribute to the slopes (Kenny, Kashy & Cook 2006), this study design was drastically underpowered. Indeed, only 37 participants reported making at least two comparisons over the course of the diary. Relevant recommendations suggest at least 70 individuals to detect a medium effect size in a diary context (Cohen, 1992; Maas & Hox, 2005).

My primary hypothesis was that those high in sexual narcissism would make more downward sexual comparisons over the course of the diary, which would predict higher daily sexual and relationship satisfaction. In order to test my primary hypotheses, I conducted 2-1-1 mediation analyses, in which I tested to see if the associations between sexual narcissism and daily sexual satisfaction and relationship quality were mediated by the direction of any sexual comparisons made that day. Contrary to my expectations, those who were higher in sexual narcissism were no more likely to report making a downward comparison \((b = .27, SE = .25, p = .289)\). However, the extent to which participants felt they were doing better than others in the domain of sexuality was associated with greater sexual satisfaction \((b = .22, SE = .09, p = .015)\) and relationship quality on that day \((b = .24,\)
Contrary to my expectations, the direction of daily sexual comparison did not mediate the link between sexual narcissism and daily sexual satisfaction and relationship quality due to the marginal association between sexual narcissism and comparison direction (indirect effect 95% CIs: -.04, .21 & -.05, .21, respectively). I suspect that this null result is primary due to low statistical power. Thus, to test my hypotheses with more statistical power, I decided to run a simple mediation analysis with the aggregated versions of each of the level one variables (i.e. daily sexual comparison direction, sexual satisfaction, relationship satisfaction). However, even at this level, a power analysis in G Power indicated that I only had 43% power to detect the expected indirect effect, assuming that both the A and B pathways have a medium effect size. In order to conduct this analysis, I aggregated the daily sexual comparison direction, as well as sexual and relationship satisfaction variables to level two. This allowed me to investigate whether those who are high in sexual narcissism would make more downward sexual comparisons overall, and whether those who make more downward social comparisons overall report higher daily sexual satisfaction and relationship quality. In this analysis, the mediator is a measure of whether participants’ comparisons tended to be more upward or downward in nature. Further, the outcome variables measure how generally satisfied people were over the course of the diary.

I conducted this analysis using the PROCESS macro (Preacher & Hayes, 2008). As I expected, those high in sexual narcissism were marginally more likely to make downward sexual comparisons over the course of the diary ($b = .49, SE = .27, p = .075$). In turn, participants who reported that the comparisons that they made were downward in nature tended to report higher sexual satisfaction ($b = .41, SE = .08, p < .001$) and relationship quality ($b = .26, SE = .08, p = .001$). Contrary to my
expectations, the indirect effect from sexual narcissism to sexual and relationship satisfaction were not statistically significant (indirect effect 95% CIs: -.06, .56 & -.03, .40, respectively). I expect that these marginal effects are likely due to low statistical power, given that I only had 63 participants who made at least one sexual comparison throughout the course of the diary.

3 Brief Discussion of Study 7

In Study 7, I expected to replicate the results of Study 1 in the daily context. Specifically, I expected that those higher in sexual narcissism would be more likely to make downward, rather than upward sexual comparisons, and that this in turn, would lead them to feel higher sexual and relationship satisfaction. Although the effects that I found were in the expected direction, the results were primarily non-significant. I expect that this was because people only reported sexual comparisons on a minority of days (about 4%) and many of the participants did not report making any sexual comparisons. I did show some, albeit weak support for the hypothesis when I created aggregate variables and showed that those high in sexual narcissism made marginally more downward comparisons overall, which in turn predicted higher sexual and relationship satisfaction.
Chapter 7
General Discussion

1 General Discussion Summary

In the current studies, I merged research on social comparisons, narcissism, and sexuality to develop a comprehensive understanding of sexual comparisons in the context of romantic relationships. In Study 1, I showed that people can readily recall comparisons to other people in the domain of sexuality, and that these comparisons take place in a variety of sub-domains within the area of sexuality. Further, I showed that those who are high in sexual narcissism were more likely to compare themselves to 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 experience increased sexual and relationship satisfaction after making these comparisons. In Studies 2 and 3 I showed that when people who were high in sexual narcissism were faced with hypothetical upward sexual comparisons, they expected to feel significantly more bothered by these comparisons than those low in sexual narcissism, and that they expected to feel lower sexual and relationship satisfaction as a result. In Study 4, I replicated the results of Study 3 with actual sexual comparisons. Specifically, I showed that compared to those low in sexual narcissism, those high in sexual narcissism reported significantly lower sexual and relationship satisfaction after making an actual upward sexual comparison. In Studies 5 and 6, I investigated why those who are high in sexual narcissism were more bothered by sexual comparisons. I found that for both a hypothetical (Study 5) and a real (Study 6) sexual comparison, people who were high in sexual narcissism were bothered by upward sexual comparisons for reasons relating to feeling like their partners are not meeting their standards, rather than reasons related to concerns around their partners leaving them, or their own relationship
being inferior. In Study 7, a daily experience sampling study of sexual comparisons, I showed that those who are high in sexual narcissism made comparisons slightly, though non-significantly, more frequently in their day-to-day lives. Further, I showed that these comparisons were marginally more likely to be downward in nature, and that making more downward comparisons over the course of the diary was related to higher sexual and relationship satisfaction. This multi-method set of studies is the first to extend the research on social comparisons to the domain of sexuality. Taken together, these studies provide a comprehensive picture of the effects of sexual comparisons on sexual and relationship satisfaction.

2 Sexual Narcissists are More Reactive to Sexual Comparisons

In Study 1, I found that those who were higher (versus lower) in sexual narcissism tended to compare themselves to 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. Although I do not have direct evidence in this study for whether those high in sexual narcissism are seeking out downward sexual comparisons, or are simply exposed to more downward comparisons through some other mechanism, 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, 3 and 4, I showed that people high in sexual narcissism either expected to experience (Studies 2 and 3) or actually experienced (Study 4) lower sexual and relationship satisfaction than
those low in sexual narcissism after a making hypothetical or actual upward sexual comparison. Further, sensitivity to upward social comparisons was an important mechanism by which sexual narcissism was associated with lower sexual and relationship satisfaction (Study 2). Study 3 showed that these results could not be attributed to demand characteristics, as participants were randomly assigned to imagine either an upward sexual comparison, a downward sexual comparison, or no comparison at all. Finally, in Study 4 when people were randomly assigned to make either an upward sexual comparison or either a downward comparison or no comparison at all, those high in sexual narcissism experienced lower sexual satisfaction compared to 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 Studies 1 through 4 confirmed my prediction that although people high in sexual narcissism tended to make comparisons that were more downward in nature, 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 my initial expectations, those high in sexual narcissism were not more reactive to downward sexual comparisons than those low in sexual narcissism. Specifically, my prediction in Study 4 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. In order to understand this result, I broke down my prediction into two parts, my
prediction for those high in sexual narcissism, and my prediction for those low in sexual narcissism. For those low in sexual narcissism and in the downward comparison condition, my 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. I think this is because those who are low in sexual narcissism were not concerned with outperforming others in the domain of sexuality. However, my 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 to those low in sexual narcissism. After careful consideration of this unexpected result, I think that those high in sexual narcissism may not have perceived the 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 since they tend to overestimate their sexual skill (Widman & McNulty, 2010) and report making comparisons which are more downward in nature regularly, as I 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 I 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.

In Study 7, my goal was to develop a comprehensive picture of sexual comparisons in daily life. Specifically, I was interested in understanding how often people make sexual comparisons, what directions these comparisons are in, and how these comparisons influence sexual and relationship satisfaction. Although I did not have specific hypotheses regarding how frequently people would make sexual comparisons, people made fewer comparisons than I expected over the course of the diary. Based on the results of Study 1, I expected that most people would make at least one sexual comparison throughout the diary. However, the majority of participants (68%) did not report any sexual comparisons over the course of the diary. This is important for two reasons. First, it suggests that there may be particular people for whom social comparisons are most relevant, or particular contexts in which sexual comparisons are most likely to take place. Second, the lower than expected reporting of sexual comparisons negatively influenced the statistical power in this study. Thus, I did not have adequate statistical power to test the effects I was interested in. In the future, researchers should collect additional data to develop a better understanding of how sexual comparisons play out in people’s day-to-day lives. I did however, find a marginally significant mediation effect; that is, participants who were high in sexual narcissism reported more sexual comparisons over the course of the diary, which in turn, predicted higher sexual and relationship satisfaction over the course of the diary.
3 Why Sexual Comparisons Bother Sexual Narcissists

In Studies 5 and 6, I wanted to assess the reasons why those who are high in sexual narcissism are more bothered by upward sexual narcissists than those low in sexual narcissism. Indeed, in Study 2, people high in sexual narcissism reported that they would be more bothered by an upward sexual comparison. Further, in Studies 3 and 4, people who were high in sexual narcissism reported lower expected and actual sexual and relationship satisfaction, respectively, after an upward sexual comparison. Given that narcissists tend to blame others for group failures (Campbell, Reeder, Sedikides, & Elliott, 2000) and that they are often looking for a better partner (Campbell, 1999), I expected that sexual narcissists would be more bothered by upward sexual comparisons for partner-inferiority focused reasons, but not for reasons relating to either the self being inferior, or to the relationship being inferior. Indeed, as I expected, those high in sexual narcissism consistently reported that they would be more bothered by an upward sexual comparison for reasons related to their romantic partners being inferior. In Studies 5 and 6, those high in sexual narcissism also reported that they would be more bothered by relationship-inferiority reasons.

4 Contributions to the Broader Literature on Sexuality, Romantic Relationships and Personality Psychology

This is the first research that merges research on social comparisons with research on sexual narcissism to examine the effects of sexual comparisons on sexual and relationship satisfaction. To my knowledge, no past research has focused specifically on the types of comparisons people make in the domain of sexuality. Further, the present research provides the first evidence 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, 2000), 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 to other people (Thai & Lockwood, 2015). However, no research to date has shown that in romantic relationships, people compare their sex lives to the sex lives of other couples. Thus, this 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.

Further, this research contributes to the literature on narcissism more broadly. Past research on narcissism has found that people high in narcissism tend to blame other people for failures (Campbell, 1999). However, no research that I am aware of has extended this finding to the research on social comparisons. Given that past work shows that upward social comparisons are particularly influential for more narcissistic individuals Nicholls and Stukas (2011), it is critical for researchers to develop an understanding of how the comparison process may differ for those high in narcissism and those low in narcissism. However, there has been no research to date which investigates why narcissists are more strongly influenced by upward social comparisons, both from a theoretical perspective, and from the perspective of narcissists themselves. This approach is likely to be particularly important in light of recent research showing that people make social comparisons close others, as well as themselves (Thai & Lockwood, 2015). The present research is the first to focus on how sexual narcissists react to comparisons at a level other than that of the individual (e.g. dyadic, or expanded self) and is the first research to show why sexual narcissists are bothered by comparisons. This research could be extended to focus on general narcissism and general social comparisons in
order to develop a better understanding of how the social comparison process differs for those high versus low in narcissism.

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 that 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.

5 Implications for Relationships

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, 1989), 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, 2010; Widman & McNulty, 2010). Further, sexuality has the potential to foster a great deal of satisfaction and intimacy, but it also has a unique potential for harm. Indeed, sexual coercion is prevalent in romantic relationships – in one study, approximately one-third of couples reported sexual coercion in their romantic relationships (Brousseau, Bergeron, Hebert, & McDuff, 2011). Further, the psychological harm that occurs as a result of intimate partner aggression is particularly severe. In one study, women victimized by a partner experienced more negative mental health consequences (i.e. depression and anxiety) than those who were victims of non-intimate
sexual aggression (Temple, Weston, Rodriguez, & Marshall, 2007). Given the prevalence of sexually aggressive behaviours in the context of intimate relationships and their unique potential for harm, it is critical that researchers develop an understanding of the individuals most likely to perpetrate these behaviours, as developing an understanding of why some people resort to sexual coercion could help future researchers design interventions aimed at reducing sexual coercion in romantic relationships. Critically, men who are high in sexual narcissism report having engaged in a wide variety of sexually aggressive behaviours from verbal coercion all the way to attempted or completed rape. Men who are high in sexual narcissism are more likely than men who are low in sexual narcissism to engage in all of these behaviours. Further, the exploitative behaviors in which men 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.

6 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 the research questions may have been clear to participants, and thus the results may be vulnerable to demand characteristics. I sought to address this limitation in several ways. In Study 2, I asked all of the 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. Further, in Studies 3 and 4, I made sure that participants only saw the information relevant to their condition in order to make my 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. In order 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 I focus exclusively on comparisons made by people who are in romantic relationships and that I focus on comparisons of sexual frequency in five of the seven studies I conducted. Indeed, I focused on comparisons made by people in ongoing romantic relationships because I was primarily interested in how sexual comparisons influence relationship and sexual satisfaction. However, sexual comparisons may also be relevant for people who are not in an ongoing romantic relationship. Thus, future research should investigate whether people make comparisons in the domain of sexuality outside of the context of a romantic relationship, and if so, what the implications of those comparisons are. Further, I focused on comparisons of sexual frequency, despite the fact that people reported comparisons in many different domains of sexuality in Study 1. Indeed, 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 if these findings generalize to other types of sexual comparisons. Given narcissists’ orientation towards more
agentic goals (Campbell et. al., 2006), I would expect that my 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.

Further, in two studies, I found that there were unexpected moderations by gender. Specifically, I
found in Study 1 that only women who were high in sexual narcissism were more likely to recall that
their most recent sexual comparison had been downward. Further, in Study 6, only women who were
high in sexual narcissism reported lower sexual and relationship satisfaction after an upward sexual
comparison. Although this moderation was not found consistently across studies, future research
should investigate to see if there are consistent differences in the ways that men and women who are
high in sexual narcissism make and think about sexual comparisons. In Study 1, I considered that the
gender difference may have been due to women’s friendships being more intimate than men’s
(Caldwell & Peplau, 1982). However, in Study 6, participants were making a comparison to the
average couple, so the amount of intimacy in their relationships could not account for this result.
Thus, it is possible that women are more likely to make social comparisons generally. Indeed, in one
study assessing people’s inclination to engage in social comparisons, or their social comparison
orientations, women were found to have higher social comparison orientations than men, suggesting
that they use social comparison as a means of self-evaluation more regularly (Gibbons & Buunk,
1999). This result suggests that social comparisons may be an important means of self-evaluation for
women who are high in sexual narcissism, but may be a less important means of self-evaluation for
men who are high in sexual narcissism.

Another limitation of this set of studies is that I did not have sufficient statistical power to test my
hypothesized effects in Study 7. Given that in Study 1, 85% of participants were able to recall a
recent sexual comparison I expected that a similar number of diary study participants would recall at least one sexual comparison over the course of the diary. Contrary to my expectations, only 63 of my 133 participants (32.1%) reported at least one comparison over the course of the diary. Thus, this study was underpowered. Given the complexity of calculating power in multi-level designs, I did not compute a formal power analysis, but relevant recommendations suggest at least 70 individuals to detect a medium effect size in a diary context (Cohen, 1992; Maas & Hox, 2005). Future research could address this limitation in one of several key ways. First, researchers could run a very large daily experience sampling study, or combine multiple samples of daily experience sampling studies to achieve adequate statistical power. Alternatively, researchers could focus on specific individuals or on specific situations where sexual comparisons may be the most relevant. Indeed, it is possible that there are certain groups of people for whom sexual comparisons may be most relevant. For example, it is possible that younger people or people in newer relationships, who are still in the process of establishing the sexual norms of their relationship may be more likely to make sexual comparisons. Similarly, there may be particular contexts in which sexual comparisons are most likely to occur. For example, people may be more likely to make comparisons if they are reading certain popular magazines that discuss sexuality in the context of relationships (e.g. Women’s Health, Men’s Health, Cosmopolitan). Further, people may be more likely to make sexual comparisons in specific contexts such as bachelor or bachelorette parties, or at certain times when sexuality is rapidly changing (e.g. the transition to parenthood). Future research should consider focusing on contexts in which sexual comparisons might be the most relevant to continue to investigate these effects.
A final limitation of this set of studies is that I focus on a single member of the romantic couple in all of the studies which brings up two key issues. First, in the first six studies, I was unable to confirm participants’ 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 me 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. This is particularly important in Studies 3-6, because in these studies, I generated sexual comparison prompts based on people’s reported levels sexual frequency. If sexual narcissists exaggerated their own sexual frequency, they may have been presented with sexual comparisons in which the discrepancy between themselves and the comparison target was larger than it was for those low in sexual narcissism. Future research should consider using the Truth and Bias model (West & Kenny, 2011) in a dyadic sample to investigate if people high in sexual narcissism have biased reports of sexual frequency. Second, I do not know how upward sexual 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). I had hoped to address this research question in Study 7, but due to low statistical power, I was unable to do so. 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), I 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, I focus specifically on comparisons that those high in sexual narcissism make to 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 in order to maintain grandiose views of the sexual self, and future research could investigate this possibility.

7 Conclusion

The current research provides evidence that people compare their own sex lives to the sex lives of others, and that these comparisons have implications for their sexual and relationship satisfaction. Further, this is the first research to address why upward sexual comparisons are more impactful for those high in sexual narcissism than they are for people low in sexual narcissism. Specifically, in these studies I 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. Finally, I showed that people high in sexual narcissism are bothered by upward sexual comparisons because they make
them feel like they may be with an inferior romantic partner. This work is important since 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.


Appendix A: Social Comparison Transformations (Studies 3, 4, 5, & 6)

*Social Comparisons Presented in Studies 3, 4, 5, & 6*

<table>
<thead>
<tr>
<th>Participant’s Sexual Frequency</th>
<th>Upward Social Comparison Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than once a year</td>
<td>About 2 or 3 times a year</td>
</tr>
<tr>
<td>Once a year</td>
<td>Every couples of months</td>
</tr>
<tr>
<td>About 2 or 3 times a year</td>
<td>About once a month</td>
</tr>
<tr>
<td>Every couples of months</td>
<td>Less than once a week/two to three times a month</td>
</tr>
<tr>
<td>About once a month</td>
<td>About once a week</td>
</tr>
<tr>
<td>Less than once a week/two to three times a month</td>
<td>About twice a week</td>
</tr>
<tr>
<td>About once a week</td>
<td>About three times a week</td>
</tr>
<tr>
<td>About twice a week</td>
<td>About four times a week</td>
</tr>
<tr>
<td>About three times a week</td>
<td>About five times a week</td>
</tr>
<tr>
<td>About four times a week</td>
<td>About six times a week</td>
</tr>
<tr>
<td>About five times a week</td>
<td>Daily</td>
</tr>
<tr>
<td>About six times a week</td>
<td>Multiple times a day</td>
</tr>
<tr>
<td>Daily</td>
<td>Multiple times a day</td>
</tr>
<tr>
<td>Multiple times a day</td>
<td>Multiple times a day</td>
</tr>
</tbody>
</table>
Appendix B: Upward Comparison Magazine Article (Studies 4 & 6)

Fabricated Magazine Article Presented in upward condition in Studies 4 & 6

UofT Magazine

Are you having sex often enough?

How often does the average couple have sex? It’s a question that most of us are pretty curious about, however until recently, nobody has had a clear sense of how much sex is “enough” for the average couple. New research at the University of Toronto which used advanced research techniques in order to get the best possible results tells us that couples are actually having sex more than most of us actually thought. On average, young couples who are either married or living together are having sex approximately four times a week.

According to this research, most couples are actually having sex quite often, and the vast majority of them are quite happy with their sexual frequency. The lead researcher on the study, Dr. Amy Muise states, “In our research, we find that these myths about long-term couples having issues in their sexual relationship are totally untrue. In fact, the vast majority of couples are doing really, really well!” Dr. Muise suggests that previously low estimates of sexual frequency may have been due to a small number of unsatisfied couples, but for most people, these things just aren’t an issue in their relationship.
Appendix C: Downward Comparison Magazine Article (Study 4)

Fabricated Magazine Article Presented in downward condition in Study 4

Are you having sex often enough?

How often does the average couple have sex? It’s a question that most of us are pretty curious about, however until recently, nobody has had a clear sense of how much sex is "enough" for the average couple. New research at the University of Toronto which used advanced research techniques in order to get the best possible results tells us that couples are actually having sex less than most of us actually thought. On average, young couples who are either married or living together are having sex less than once a week to two to three times per month.

According to this research, most couples are actually having sex quite rarely, and the vast majority of them have some issues and concerns with their sexual frequency. The lead researcher on the study, Dr. Amy Muise states, “In our research, we find that these myths about long-term couples maintaining totally fulfilling sex lives are totally untrue. In fact, the vast majority of couples are experiencing at least some struggles when it comes to sex.” Dr. Muise suggests that previously high estimates of sexual frequency may have been due to a small number of satisfied couples, but for most people, sexual satisfaction for both partners is something that’s just difficult to maintain.
Appendix D: Reasons Comparisons Bother People Presented in Study 5

Partner-Inferiority Focused Reasons

Finding out that my partner and I are having sex LESS than the average couple would bother or upset me because...
1. Because it might mean that my partner is not living up to my standards.
2. Because it might mean that I should leave my partner.
3. Because it might mean that my partner is not meeting my sexual needs.
4. Because it might mean that I could be having more frequent sex in another relationship.
5. Because it might mean that there is something wrong with my partner.
6. Because it might mean my friends are having sex more often than me.
7. Because it might mean that my ex-partner is having sex more often than me.
8. Because it might mean that I’m not with the best partner I could be.
9. Because it might mean that my partner is not attractive or sexy enough.
10. Because it might mean that my partner is “holding out on me”.

Self-Inferiority Focused Reasons

Finding out that my partner and I are having sex LESS than the average couple would bother or upset me because...
1. Because I might not be living up to my partner's standards.
2. Because it might mean that my partner will leave me.
3. Because it might mean that I am not meeting my partner’s sexual needs.
4. Because it might mean that my partner could be having more frequent sex in another relationship.
5. Because it might mean that there is something wrong with me.
6. Because it might mean that my partner could be more sexually satisfied with someone else.
7. Because It might mean that I am not attractive enough for my partner.
8. Because it might mean that I am not sexually skilled enough for my partner.

Relationship-Inferiority Focused Reasons

Finding out that my partner and I are having sex LESS than the average couple would bother or upset me because...
1. Because it might mean that our relationship is not as good as other relationships.
2. Because it might mean that there is something wrong with our relationship.
3. Because it might mean that our relationship is not as passionate as other relationships.
4. Because it might mean that my partner and I are not normal.
5. Because it might mean that our relationship is less exciting than other relationships.
6. Because it means we should work harder at our sex life.
7. Because it means we are missing out on opportunities for sexual connection.
Appendix E: Final Items for Reasons Comparisons Bother People Presented in Studies 5 & 6

Partner-Inferiority Focused Reasons

Finding out that my partner and I are having sex LESS than the average couple would bother or upset me because...

1. Because it might mean that my partner is not living up to my standards.
2. Because it might mean that I could be having more frequent sex in another relationship.
3. Because it might mean that there is something wrong with my partner.
4. Because it might mean that my partner is not attractive or sexy enough.
5. Because it might mean that my partner is “holding out on me”.

Self-Inferiority Focused Reasons

Finding out that my partner and I are having sex LESS than the average couple would bother or upset me because...

1. Because I might not be living up to my partner's standards.
2. Because it might mean that my partner will leave me.
3. Because it might mean that my partner could be having more frequent sex in another relationship.
4. Because it might mean that my partner could be more sexually satisfied with someone else.
5. Because it might mean that I am not sexually skilled enough for my partner.

Relationship-Inferiority Focused Reasons

Finding out that my partner and I are having sex LESS than the average couple would bother or upset me because...

1. Because it might mean that there is something wrong with our relationship.
2. Because it might mean that our relationship is not as passionate as other relationships.
3. Because it might mean that our relationship is less exciting than other relationships.
4. Because it means we should work harder at our sex life.
5. Because it means we are missing out on opportunities for sexual connection.
Table 1

*Descriptive Statistics for Sexual Narcissism Subscales (All Studies)*

<table>
<thead>
<tr>
<th>Sample</th>
<th>Sexual Exploitation</th>
<th>Sexual Entitlement</th>
<th>Sexual Skill</th>
<th>Low Sexual Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Alpha</td>
<td>Mean</td>
</tr>
<tr>
<td>Study 1</td>
<td>2.96</td>
<td>1.30</td>
<td>.79</td>
<td>3.48</td>
</tr>
<tr>
<td>Study 2</td>
<td>2.69</td>
<td>1.29</td>
<td>.75</td>
<td>3.19</td>
</tr>
<tr>
<td>Study 3</td>
<td>2.78</td>
<td>1.27</td>
<td>.78</td>
<td>3.29</td>
</tr>
<tr>
<td>Study 4</td>
<td>2.91</td>
<td>1.31</td>
<td>.79</td>
<td>3.42</td>
</tr>
<tr>
<td>Study 5</td>
<td>2.77</td>
<td>1.27</td>
<td>.82</td>
<td>3.14</td>
</tr>
<tr>
<td>Study 6</td>
<td>2.73</td>
<td>1.36</td>
<td>.74</td>
<td>3.09</td>
</tr>
<tr>
<td>Study 7</td>
<td>2.76</td>
<td>1.15</td>
<td>.70</td>
<td>3.16</td>
</tr>
<tr>
<td>Sample</td>
<td>Leadership/Authority</td>
<td>Self-Absorption/ Self-Admiration</td>
<td>Superiority/Arrogance</td>
<td>Entitlement/Exploitation</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------</td>
<td>----------------------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Alpha</td>
<td>Mean</td>
</tr>
<tr>
<td>Study 1</td>
<td>0.40</td>
<td>0.32</td>
<td>.90</td>
<td>0.35</td>
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<tr>
<td>Study 2</td>
<td>0.40</td>
<td>0.30</td>
<td>.80</td>
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</tr>
<tr>
<td>Study 3</td>
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<td>.80</td>
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</tr>
<tr>
<td>Study 4</td>
<td>0.41</td>
<td>0.31</td>
<td>.81</td>
<td>0.33</td>
</tr>
<tr>
<td>Study 5</td>
<td>3.40</td>
<td>1.25</td>
<td>.83</td>
<td>3.67</td>
</tr>
<tr>
<td>Study 6</td>
<td>3.34</td>
<td>1.25</td>
<td>.81</td>
<td>3.65</td>
</tr>
</tbody>
</table>
Table 3

*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*

<table>
<thead>
<tr>
<th>Relationship Outcomes</th>
<th>Sexual Satisfaction</th>
<th>Relationship Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Effect of Sexual Narcissism</td>
<td>-.26+ (.14)</td>
<td>-.25** (.09)</td>
</tr>
<tr>
<td>Direct Effect of Sexual Narcissism</td>
<td>-.23 (.14)</td>
<td>-.19+ (.09)</td>
</tr>
<tr>
<td>Indirect Effect through Sensitivity to Upward Social Comparisons</td>
<td>[-.21, -.01]</td>
<td>[-.17, -.01]</td>
</tr>
<tr>
<td>Indirect Effect through Sensitivity to Downward Social Comparisons</td>
<td>[-.07, .19]</td>
<td>[.11, .11]</td>
</tr>
</tbody>
</table>

Note: *** p < .001, ** p < .01, * p < .05
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*
Figure 3. *Comparison condition and sexual narcissism interacting to predict sexual satisfaction in Study 4*
Figure 4. Comparison condition and sexual narcissism interacting to predict relationship satisfaction in Study 4
Figure 5. Scree plot for reasons why a sexual comparison might bother someone in Study 5