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A Mixed-Method Analysis of Women's Attributions about Their Partner's Pornography Use

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ABSTRACT

We used a mixed-method design to examine the attributions women in mixed-gender/sex relationships make for their partner's perceived pornography use and whether such attributions covary with women's relationship and sexual satisfaction. A final sample of 199 women completed measures of relationship satisfaction, sexual satisfaction, and their perceptions of partner's pornography use. Participants also completed three open-ended questions assessing their attributions of their partner's perceived pornography use. Qualitative analyses revealed 11 themes in women's attributions of their partner's perceived pornography use; some of the themes reflected on women themselves (e.g., being open-minded and accepting), whereas other themes reflected on the partner (e.g., partner is sexually bored) or the relationship (e.g., strong and trusting relationship). Furthermore, the women made positive, negative, and neutral attributions. Quantitative analyses showed that positive attributions were significantly more frequent than neutral or negative attributions and the latter two categories did not differ significantly from each other. Also, greater frequency of positive and neutral attributions and lower frequency of negative attributions were associated with higher relationship satisfaction and sexual satisfaction. Our results suggest that women make a range of attributions about their partner's pornography use and that this variation relates meaningfully to indices of relationship functioning.

Pornography use is defined as the intentional use of any type of media for the purposes of sexual arousal. Such material generally portrays images of nudity and depictions of sexual behaviors and can include print or online materials (Carroll et al., 2008). Although estimates tend to vary, converging evidence suggests that pornography use is a highly prevalent sexual behavior (Cooper et al., 2004). For example, using survey data of nationally representative samples from the United States, Regnerus et al. (2016) found that 46% of men and 16% of women between the ages of 18 and 39 intentionally viewed pornography over a one-week period. Researchers consistently find higher rates of pornography use among men than among women (Döring et al., 2017; Wright et al., 2017).

An emerging area of interest for relationship and sexuality researchers is how pornography influences the dynamics of a couple's sexual relationship (Wright et al., 2017). In the current study, we built on past literature examining the interplay between relationship processes and pornography use by investigating the attributions that women make for their romantic partner's perceived pornography use in mixed-gender/sex¹ couples. An attributional framework can provide unique insight into understanding the interpersonal context of pornography use. Attribution theory concerns how individuals explain the causes of behaviors and events (Fiske &

Taylor, 1991). Such interpretations can include inferences of responsibility for an event, such as the assumption that a particular behavior by the partner was out of their volitional control. It can also include judgments about the traits and characteristics of others. Past applications of attribution theory to romantic relationships have demonstrated that: (a) attributional activity is pervasive (Harvey, 1987), and particularly for negative or unexpected partner behaviors, (b) individuals tend to make biased attributions about their partner's behavior, based on their own beliefs, experiences, goals, and expectations (Jacobson et al., 1985), and, (c) there is a robust association between the types of attributions partners make and their relationship quality (Fincham, 2001). That is, individuals in more satisfied relationships tend to view positive partner behavior as internally motivated and negative partner behavior as externally motivated and the opposite pattern is observed for individuals in distressed relationships (Fincham, 2001). In light of the critical role that attributions play in how individuals interpret and respond to their romantic partners, we used this theoretical framework to examine how individuals in romantic relationships interpret the meaning of their partner's pornography use. Given that the same partner behavior (e.g., partner's pornography use) can be interpreted in different ways and that the idiosyncratic meaning that an

¹In keeping with the recommendation of Hyde et al. (2019), based on Yoder (2003), we have adopted the term gender/sex rather than either sex or gender in this manuscript given that we cannot separate the biological and socially constructed effects.



individual attaches to the behavior impacts how a person responds, regardless of the actual motivation underlying the behavior (Jacobson et al., 1985), we wanted to examine individual differences in the attributions women make about their partner's pornography use and to examine the extent to which the meaning they construct is associated with their relationship and sexual satisfaction.

Attributions about Partner's Perceived Pornography Use

There are a range of meanings that individuals may construct about their partner's pornography use. To illustrate these meanings, consider the following example: Layna is planning a romantic couple getaway for her partner's birthday. She decides to look at the options available at a popular travel website. As she opens the computer she shares with her partner, she sees that he has been looking at online pornography. There are a number of internal reactions that Layna might have to this scenario. She may view her partner's behavior as meaning that he does not find her sexually desirable or has lost interest in her. These thoughts are likely to be accompanied by a negative affective reaction. Alternately, she may view his behavior as meaning that he is seeking to enhance their sex life or another indication of his openness to various forms of sexual expression. In this case she will likely have a positive affective reaction. It is also possible that Layna might have a neutral reaction, perhaps because pornography use is a normative part of her sexual relationship with her partner and her partner's pornography use does not trigger a positive or negative affective response in her. Thus, there are a number of different attributions that Layna could make; however, to date, researchers have not investigated the range of different attributions that an individual makes of their partner's pornography use.

A comprehensive understanding of the types of attributions that individuals make for their partner's pornography use could lay the groundwork for future research investigating the role of relationship mechanisms in explaining the link between pornography use and relationship outcomes, such as relationship satisfaction and sexual satisfaction. A recent meta-analysis conducted by Wright et al. (2017) examined the link between pornography use and sexual satisfaction and relationship satisfaction using data from approximately 50,000 participants from 10 countries, pooled from 50 empirical studies. The authors concluded that the effects of pornography use tend to vary by gender/sex, with men's pornography use being associated with their own lower relationship and sexual satisfaction, and no significant association between women's pornography use and their own relationship and sexual satisfaction. Researchers who have used longitudinal designs in an effort to disentangle the directionality of the effects have found a similar pattern of results (Perry & Davis, 2017; Perry & Schleifer, 2018). Other empirical studies have broadened the scope of the research by examining the extent to which men's and women's pornography use is associated with their partner's relationship and sexual satisfaction. The preponderance of evidence suggests that men's use of pornography is associated with lower relationship and sexual satisfaction reported by their female partner (Perry, 2017; Vaillancourt-Morel et al., 2019; Willoughby & Leonhardt, 2018). In contrast, women's pornography use is either not associated with their male partner's relationship and sexual satisfaction or is associated with higher relationship and sexual satisfaction reported by their male partner (Perry, 2017; Vaillancourt-Morel et al., 2019; Willoughby & Leonhardt,

A partner's pornography use may mean very different things to different individuals and the type of attribution that an individual makes for their partner's perceived pornography use could be critically important in informing relationship outcomes. In the current study, we focused on women's attributions for their male partner's perceived pornography use because men use pornography at a higher rate than do women (Wright et al., 2017) and because their use has been linked to adverse relationship outcomes for both members of a couple (see review above). Below, we detail the specific research questions that we investigated in the current study.

Research Question 1: Attributions about Partner's Perceived Pornography Use

To our knowledge, no study has investigated the attributions that individuals make for their partner's perceived pornography use. Although Poulsen et al. (2013) purported to assess these attributions, an examination of their methodology suggests that their study focused on attitudes toward pornography use, rather than attributions about pornography use. The four questions they asked participants to rate were: (a) Pornography is an acceptable way for couples to "spice up" their love life, (b) Viewing pornography is an acceptable way for married adults to express their sexuality, (c) Pornography objectifies and degrades women, and (d) Pornography is a form of marital infidelity. In another study, Kohut et al. (2017) used a qualitative methodology to assess the perceived impact of pornography use on the couple relationship. However, they did not assess attributions directly. Attributions and perceived impact, also referred to in the literature as self-perceived effects (Hald & Malamuth, 2008), are constructs that are conceptually linked, but distinct. Attributions reflect an individual's perceptions of the causes of an event or behavior, whereas perceived impact refers to an individual's subjective assessment of the effects of an event or behavior. It is possible for an individual to assign a positive attribution for their partner's pornography use (e.g., "my partner uses pornography in order to add variety to our sex life") while also viewing the impact of the use in negative terms (e.g., "my partner's pornography use leads him to have unrealistic expectations of how a sexual encounter should unfold"). Building on these two studies (Kohut et al., 2017; Poulsen et al., 2013), we assessed attributions using both qualitative and quantitative methods rather than one or the other.

Specifically, we assessed women's attributions about their male partner's perceived pornography use in three different domains: (a) attributions related to the self, (b) attributions related to the partner, and (c) attributions related to the relationship. We reasoned that it was important to assess these three domains because past research has demonstrated that attributions for events vary depending on the specific

context in which they are elicited (Blanchard-Fields et al., 1998). Although these three domains (self, partner, relationship) are interdependent, they are also distinct. For example, it is possible for someone to believe that pornography use reflects positively on their partner's sexual curiosity and interest in sex while also believing that it reflects something lacking in their sexual relationship.

We assessed attributions using an open-ended, qualitative methodology. We opted for this methodology over a questionnaire-based rating scale because the current state of research on pornography attributions is such that we do not have a comprehensive understanding of the types of attributions individuals make for their partner use. An open-ended methodology is more appropriate for identifying the range and types of attributions that individuals can make for their partner's use. We hypothesized that participants would report multiple positive and negative attributions for their partner's perceived pornography use. Although we did not hypothesize about the specific number and nature of categories, past research on attributional theory, specifically, findings showing that individuals make a range of attributions for the same event or interpersonal behavior (Harvey, 1987), were the basis of this hypothesis.

Research Question 2: The Relative Frequencies of Positive, Negative and Neutral Attributions

One of the criticisms of pornography research has been that it tends to operate from a harm-focused perspective with researchers being biased toward identifying potential negative effects of pornography use (Campbell & Kohut, 2017; Fisher & Kohut, 2017). In contrast, emerging evidence from qualitative and quantitative findings suggests that pornography can be used in a relational context to broaden understanding of sexuality (Warner, 2000), to create an erotic climate (Daneback et al., 2009), and to enhance the sexual connection between partners (Kohut et al., 2017). Such findings suggest that attributions about the partner's pornography use can also range from negative to positive. Therefore, we examined the extent to which the attributions women made for their partner's perceived pornography use were positive, negative, and neutral attributions and compared the relative frequencies of these three valences of attributions. Due to the lack of previous research, we did not offer any directional hypotheses for the relative frequencies of the three valences.

Research Question 3: Attributions about Partner's Perceived Pornography Use and Relationship Well-Being

Researchers have demonstrated that men's higher level of pornography use is associated with lower relationship and sexual satisfaction for their female partner (Bridges & Morokoff, 2011; Poulsen et al., 2013; Stewart & Szymanski, 2012). A *plausible* third factor that might explain this finding, partially or in whole, is women's negative attributions about their male partner's pornography use. If so, more negative attributions would be associated with lower relationship and sexual satisfaction. Conversely, based on research showing that positive attributions about the partner, in general, are associated with greater relationship wellbeing (Fincham, 2001), it is likely that greater positive attributions would be associated with higher relationship and sexual satisfaction. Note that it was neither the goal nor within the scope of the

current study to show that the associations between men's pornography use and their partner's sexual satisfaction and relationship satisfaction are mediated by the attributions that women make about their partner's pornography use. We do not have the data to answer that question because we did not recruit both members of the dyad to participate in our study. However, our study can shed light on contextual factors that vary systematically with pornography use and may be useful in clarifying the nature of the association between men's pornography use and negative relationship outcomes reported by their female romantic partners.

We hypothesized that a higher frequency of positive attributions and a lower frequency of negative attributions would be associated with higher relationship satisfaction. We also hypothesized the same pattern of results for sexual satisfaction in light of past work suggesting that there is a similar pattern of association to pornography use for both relationship outcomes (Wright et al., 2017).

Method

Participants

Study participants were recruited through an online service, Turk Prime. To be eligible for the study, the participants had to be women, over the age of 18, currently in a romantic relationship, and living in the United States. In total, 248 participants completed the study. Nine participants were removed from the data analyses because they did not meet one of the inclusion criteria: two did not self-identify as women, three were not currently in a romantic relationship, and four did not answer the open-ended questions. Because our focus was on examining the attributions that women make for their male partner's perceived pornography use, we also excluded nine participants who were in a relationship with a woman. Thirteen participants who reported their partner did not use pornography were also excluded (additional information about the measure used to assess knowledge of partner's pornography use is provided later in this section).

Due to validity concerns about data from online participant pools, we included validity checks. To ensure that participants were attending to questions carefully, five validity questions (e.g., Select "agree" to show that you have read this question carefully) were randomly added to online questionnaires. In our first validity check, we examined whether participants correctly responded to the validity questions. Participants who responded incorrectly to two or more of these questions were excluded from analyses (N = 7). Second, GPS data (i.e., latitudinal and longitudinal coordinates) were scanned for repeating coordinates. Multiple responses from identical GPS coordinates may be indicative of robotic devices responding to online surveys. Cases with identical GPS coordinates were excluded from analyses (N = 11) (Buhrmester et al., 2011). The final sample consisted of 199 female participants. Participants ranged in age from 21 to 70 years old (M = 37.19; SD = 10.09). On average, the participants in our sample had completed 14.75 years (SD = 2.23) of education. Other demographic features of our sample are detailed in Table 1.

Measures

Demographics Questionnaire

Participants were asked to provide demographic information including their age, gender, partner's gender, ethnicity (Caucasian,

Table 1. Demographics of participants.

	n	%
Relationship Status		
Married	114	57.29
Not married but in a long-term, committed relationship	77	38.69
Not reported	8	4.02
Relationship Type		
An exclusive/monogamous relationship	183	91.96
A nonexclusive/non-monogamous relationship	9	4.52
An open sexual relationship	5	2.51
Other	1	0.50
Not reported	1	0.50
Cohabitation Status		
Yes	180	90.45
No	19	9.55
Sexuality		
Heterosexual or straight	178	89.45
Bisexual	17	8.54
Pansexual	4	2.01
Ethnicity		
Caucasian	165	82.91
African Descent	16	8.04
Hispanic	9	4.52
Other Asian	3	1.51
First Nation	2	1.01
Other	4	2.01
Employment Status		
Unemployed	21	10.55
Temporary/seasonal worker	4	2.01
Retired	4	2.01
Full-time	124	62.31
Part-time	46	23.12

African Descent, Hispanic, South Asian, Other Asian, First Nation, Other), years of education, current employment, sexual identity (Heterosexual or straight, Homosexual, Bisexual, Asexual, Pansexual, Other, Prefer not to answer), relationship status (currently married, not married but in a long term, committed relationship, and single), length of their current relationship, and whether they were currently living with their partner.

Relationship Satisfaction

Participants' overall satisfaction with their relationship was examined using the 6-item Quality of Marriage Index (QMI; Norton, 1983). Participants responded to the first five items (e.g., "My relationship with my partner makes me happy") on a scale ranging from 1 (*Very strongly disagree*) to 7 (*Very strongly agree*). The sixth item asked the participants how happy they are in the current relationship on a scale of 1 (*Very unhappy*) to 10 (*Perfectly happy*). Items are summed with higher scores indicating greater relationship satisfaction. The reliability and validity of the QMI has been well established in past studies (Fallis et al., 2013). The QMI demonstrated very high internal consistency in the present study ($\alpha = .97$).

Sexual Satisfaction

Overall sexual satisfaction was measured using the 5-item Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995). Participants rated the question "How would you describe your sexual relationship with your partner?" on 7-point dimensions: Very Good-Very Bad, Very Pleasant-Very Unpleasant, Very Positive-Very Negative, Very Satisfying-Very Unsatisfying, Very Valuable-Very Worthless. Items are summed with total scores ranging from 7 to 35 and higher scores indicating greater sexual satisfaction. This measure of sexual satisfaction has demonstrated high internal consistency, test-retest reliability,

and strong convergent and construct validity (Lawrance & Byers, 1995). The GMSEX also demonstrated very high reliability in the present study ($\alpha = .97$).

Knowledge of Partner's Pornography Use

Participants were asked the following question about their partner's pornography use, "To your knowledge, has your partner ever used pornography since you and he/she have been together. We are not asking about your partner's pornography use in the past, but rather while in the current relationship with you." Response options were "Yes" (N = 182), "No" (N = 13), and "Not sure" (N = 17). As noted above, we excluded participants who reported that their partner did not use pornography.

Attributions about Partner's Pornography Use

Participants first received the following instructions:

For some individuals, their partner's pornography use means something positive about the partner, themselves, or their relationship. For others, it means something negative about the partner, themselves, or their relationship. It is also possible to have both positive and negative thoughts and feelings about a partner's use of pornography or to have neither positive or negative feelings about a partner's use of pornography. In the next few questions, we ask you to reflect on your positive and negative thoughts and feelings about your partner's pornography use in the current relationship with you. If you are unsure about whether your partner uses pornography, we would like you to answer the question imagining that your partner did use pornography.

Participants' attributions about their partner's perceived pornography use were assessed with three open-ended two-part questions: "How do you think your partner's pornography use reflects on your relationship? What, if anything, does it say about your relationship?", "How do you think your partner's pornography use reflects on you? What, if anything, does it say about you?", and "How do you think your partner's pornography use reflects on your partner? What, if anything, does it say about your partner?"

Procedure

All study measures and procedures were reviewed and approved by our institution's Office of Research Ethics. Interested participants accessed the study website via Qualtrics. Participants who consented to participate first completed the demographics questionnaire. Next, participants completed a questionnaire assessing the participant's perceptions of their partner's pornography use and three open-ended questions that elicited attributions of partner's perceived pornography use. The order of the open-ended questions was randomized. Participants then completed the QMI and GMSEX. Participants also completed some additional questionnaires that were not the focus of the current study.

After completing the survey, the participants were presented with a feedback letter and 1.50 USD was deposited into their Mechanical Turk account as remuneration for study participation.

Coding of the Responses to the Open-ended Questions

We analyzed the responses to the three open-ended questions using inductive content analysis (Hsieh & Shannon, 2005). In

this bottom-up approach, category development is closely tied to and guided by data and the coding scheme is developed through an iterative process, as described below. In the first step, the first two authors (UR and VT) and a research assistant (KA) independently reviewed the responses of 50 participants to all three questions and grouped the responses into distinct categories based on the manifest content in participant responses. Following the initial coding, the three coders met and discussed the categories that they had identified based on their reading of the participant responses. We identified categories that overlapped between the three coders as well as categories that were distinct but should be retained because they represented a novel category of attributions. Finally, we discussed which categories should be merged due to overlapping content. This resulted in 23 categories. In the next step, the categories were labeled and we developed a descriptive definition of each category. The resulting coding scheme also included examples of participant responses for each category. The coding scheme was then reviewed by the other study coauthors (SB and NR). Based on their feedback, the description of each theme was further refined and redundancy/overlap between the categories was removed. The second author and the research assistant then coded a subsequent 100 responses to each of the three open-ended questions. Each participant response was assigned to a single category. If the response contained multiple attributions (approx. 5% of all responses), the code was assigned based on the most salient/predominant attribution in the response. In all instances where there were multiple responses, the attributions from participants were either in the same valence category (that is, both attributions were positive or were negative) or there was a neutral attribution followed by a positive or negative attribution. For the latter cases, we reasoned that the positive or negative valence would get a priority over the neutral attribution because the participant's position on the pornography use is not wholly neutral. Discrepancies between the coders were carefully reviewed and we made three changes based on the discrepancies that were observed: (a) when a particular example could reasonably belong to multiple categories, we clarified the description of the categories to reduce overlap/redundancy, (b) we merged categories that appeared to be thematically closely linked and difficult to distinguish, and (c) we removed categories that had a low rate of endorsement. The second author and research assistant then used this coding scheme to code all data, including a re-coding of previous responses. Any discrepancies between the two coders were discussed with the lead author and a final code was assigned to the participant response by the lead author. The final coding scheme consisted of 11 coding categories. See Table 2 for the names, abbreviated descriptions, and examples of the attributional categories that emerged from our content analysis of the participant responses to the three open-ended question.

In our analyses, we did not include responses that were uncodable. Participant responses were deemed uncodable when the response was vague, incomplete, did not fit any of the categories, or the participant comment was about their own behavior, rather than their partner's pornography use. Across the three questions, 54 responses (9%) were deemed uncodable.

Inter-rater Reliability

All participant responses were coded by at least two coders. We calculated the agreement between the two coders using the Kappa statistic (Cohen, 1960). Across the three questions, the Kappa values ranged from 0.75 to 0.78, suggesting substantial agreement between coders (Viera & Garrett, 2005).

Data Analytic Strategy for Quantitative Analyses

To answer Research Questions 2 and 3, we used Generalized Estimating Equations (GEE; Zeger & Liang, 1986) to compare the number of neutral, positive, and negative attributions. We used GEEs to test our quantitative research questions as the outcome data in our study were ordinal and nested within individuals; each participant's response to the attribution questions was coded across three valence categories (negative, neutral, and positive) using an ordinal measure of frequency ranging from 0 to 3. GEEs are a very flexible tool for dealing with nested data, such as data from family members or repeated assessments of the same individual over time (Homish et al., 2010). Additionally, unlike alternative models for modeling nested data (e.g., repeated measures ANOVA), GEE is not restricted to distributional assumptions of normality. Rather, GEE is able to handle a wide variety of outcome distributions, including continuous, count, binary, and, as is the case in the present study, ordinal scales (Zeger et al., 1988). The outcome was modeled as ordinal logistic, and an unstructured working correlation matrix was chosen to model the interdependencies between valence scores. SPSS version 25 was used to conduct all analyses.

Results

Research Question 1: What Types of Attributions Do Women Make for Their Partner's Perceived Pornography Use?

The first goal of our study was to identify the types of attributions women make about their partner's perceived pornography use with respect to how it reflects on their self, partner, and relationship. When participants were asked about their attribution for a particular domain, they did not limit their responses to the domain that was asked in the question. For example, when participants were asked to reflect on how their partner's perceived pornography use reflects on their partner, their answers were not limited to their reflections on the partner. Rather, some participants answered by describing how the partner's perceived pornography use reflects on themselves or their relationship. This also occurred for responses to two other domains (self; relationship). Thus, in our qualitative and quantitative analyses, we focused on the total number of responses in each attributional category, summed across three questions, rather than analyzing each domain separately. Below, we describe the different attributional categories that were identified through our content analysis, organized by valence (negative, positive, neutral).

Negatively Valenced Attribution Categories

As indicated in Table 2, four negative categories of attributions emerged from participant responses: Personal Inadequacy, Partner is Sexually Bored, Something is Missing in the Sexual Relationship,

Table 2. Frequency and percentage of different attributions (excluding uncodable statements).

Category Valence	Category Label	Category Description	Example of Responses	Total Frequency N = 548
Negative	Personal Inadequacy	Responses were coded in this category when the participant's response suggested that their partner's use reflected something lacking in themselves or suggested that they were not good enough for their partner.	"That I am not fit enough, pretty enough or good enough in bed that he has to resort to something like	11.86% (65/548)
Negative	Partner is Sexually Bored	Responses were coded in this category when the participant expressed the idea that their partner's pornography use reflects their partner is sexually bored with their relationship.	"To me, it makes my partner appear that he is extremely bored in our relationship and makes it seem like he'd much rather be with just about anyone other than me."	3.47% (19/548)
Negative	Something is Missing in the Sexual Relationship	Responses were coded in this category when the participant expressed that their partner's pornography use reflected something lacking or missing in the sexual relationship (e.g., sexual frequency may not be enough).	"It shows that we don't have sex enough for his needs."	2.37% (13/548)
Negative	Relationship in Jeopardy	Responses were coded in this category when the participant expressed that their partner's pornography use suggested that the relationship is in trouble/crisis.	"It says that our relationship has some serious issues that we need to discuss and get out in the open."	1.82% (10/548)
Negative	Negative – Not Otherwise Specified	Responses were coded in this category when the participant reported a clear negative reaction to their partner's pornography use but did not provide a clear attribution that could fit under any of the above negative categories.	"(he uses pornography) because he is a pervert"	11.50% (63/548)
Positive	Self as Open-Minded and Accepting	Responses were coded in this category when participants reported that her partner's use reflected positively on the participant (e.g., reflected positively on her open-mindedness and acceptance of the other partner).	"I think that it says that I am open minded and fun to be with."	6.93% (38/548)
Positive	Normal and Healthy Sexual Desire	Responses were coded in this category when participants viewed their partner's pornography use as normal and part of a healthy sexual life.	"It means he has sexual desires like everyone else."	12.22% (67/548)
Positive	Facilitates Sexual Arousal	Responses were coded in this category when the participants reported that her partner's use facilitated partner's sexual arousal and/or allowed her partner to satisfy a particular fetish that the participants did not wish to engage in.	"He gets aroused and needs to let it out. I am not always in the mood, so he's got to do what he's got to do as long as it's not with someone else."	13.14% (72/548)
Positive	Strong and Trusting Relationship	Responses were coded in this category when participants viewed their partner's pornography use as reflecting the strength and openness of their relationship.	"I believe that it shows we have a strong relationship. There is nothing wrong with fantasy."	7.66% (42/548)
Positive	Positive – Not Otherwise Specified	Responses were coded in this category when the participant reported a clear positive attribution of their partner's pornography use but did not provide a clear attribution that could fit under any of the above positive categories.	"I think that it says that my partner is open minded, fun, and is pretty adventurous."	5.66% (31/548)
Neutral	Neutral	Responses were coded as neutral if the participant specifically indicated that her partner's pornography use did not reflect positively or negatively on her, her partner, or the relationship.	"I don't think it reflects on our relationship in a negative or positive way. To me it is something neutral because it is something natural."	23.36% (128/548)
	Negative Composite Positive Composite	•		31.02% 170/548) 45.62% 250/548)

and *Relationship in Jeopardy*. First, in terms of negative self-attributions, some participants indicated that their partner's perceived pornography use reflected a limitation or inadequacy in the participant. For example, some participants expressed that they might not be attractive enough to their partner if he is "resorting" to use pornography. Others worried that their partner's perceived pornography use meant that they did not know how to satisfy him sexually. In terms of negative partner attributions, some participants indicated that the partner's perceived pornography use was a result of his sexual boredom and lack of sexual interest in them. Finally, two categories of negative attributions related to the relationship. Some participants attributed their partner's perceived pornography use to something missing and lacking in their sexual

relationship, such as a diminished sexual spark between partners, becoming too routinized in their sexual life, and lack of spontaneity or creativity in their sexual relationship. Others attributed the partner's perceived pornography use to their relationship being in jeopardy. These responses suggested that the participant viewed their partner's perceived pornography use as reflecting a fundamental problem with their relationship that could threaten their relationship stability.

In addition to these four specific categories of negative attributions, we included a fifth aggregate category that included attributions that did not fit into any of the other negative categories and did not occur with enough frequency to be included as a separate category (reported by fewer than five participants). Examples of



participant responses that were included in this category were: "[he uses pornography] because he is a pervert" and "[his use suggests that] he no longer cares about my feelings and opinions."

Positively Valanced Attribution Categories

We classified the positive attributions reported by participants into four specific codes. Of these, two categories comprised attributions related to the partner (Normal and Healthy Sexual Desire and Facilitates Sexual Arousal), one comprised attributions related to the relationship (Strong and Trusting Relationship), and one category comprised attributions related to the self (Self as Open-Minded and Accepting). Some participants attributed their partner's perceived pornography use as reflecting positively on themselves, in particular their open-mindedness and acceptance of the partner's sexual behaviors and preferences. For example, some participants noted their own non-defensive and nonjudgmental stance toward their partner's perceived pornography use fostered open disclosure about sexual behaviors and interests. The two codes that suggested that the partner's perceived pornography use reflected positively on him comprised the following content areas: (a) the partner's perceived pornography use was viewed as part of his healthy and normal sexual desires, and (b) the partner's perceived pornography use was viewed as facilitating his sexual arousal and providing an outlet for sexual interests that the participant did not wish to engage in. In addition, one positive code reflected specific attributions related to the relationship. Here, participant responses suggested that their partner's perceived pornography use reflected strength, open communication, trust, and transparency in their relationship.

In addition to these four specific categories of positive attributions, we included a fifth aggregate category that included attributions that did not fit into any of the other positive categories and did not occur with enough frequency to be included as a separate category (reported by fewer than five participants). For example, one participant indicated that their partner used pornography to prevent relationship distress ("[his use] suggests that he knows when to not bug me for sex and that keeps us both happy"). Other responses coded in this category included statements about pornography as an outlet for fetishes that the partner did not want to take part in.

Neutral Attributions

Responses were coded as neutral if the participant specifically indicated that her partner's perceived pornography use did not reflect positively or negatively on her, her partner, or the relationship. Sample participant responses for this code included: "It doesn't reflect positively or negatively on our relationship at all" and "I don't view it as meaning anything about us or our relationship."

Quantitative Analyses

In total, 548 of the 597 participant responses could be coded. The number and percent of these responses that fell into each of the attribution categories are provided in Table 2. The final column of Table 2 was calculated by summing the frequencies across the

three open-ended questions to provide the total number of participant responses that were coded in that category.

To answer Research Questions 2, 3a, and 3b, the unit of analysis was the frequency of all: (a) positively valanced attribution responses, (b) negatively valanced attribution responses, and (c) neutrally valanced attribution responses. These data are presented in the last three rows of Table 2. Of the 548 responses coded, 128 (23%) were coded as neutral, 170 (31%) were negative, and 250 (46%) were positive.²

In the final two research questions, we examined whether relationship satisfaction (3a) and sexual satisfaction (3b) were associated with the relative frequency of the attribution valences. The mean relationship satisfaction for our sample was 37.01 (SD = 9.46) and the mean level of sexual satisfaction was 27.40 (SD = 8.12) and, as expected, these two measures were strongly associated with each other (r = 0.72).

Research Question 2: Comparing the Relative Frequencies of Positive, Negative and Neutral Attributions

To test Research Question 2, we examined whether the frequency of positive, neutral, and negative attributions was significantly different from each other using GEE. To do so, valence was included as the only predictor of frequency. Both attribution valence (the predictor) and attribution frequency (the outcome) were nested within individuals. The overall effect of valence indicated that there was a significant difference in attribution valence frequency, $\chi^2 = 31.59$, p < .001. Pairwise comparisons between valence frequencies were tested by including valence categories (using negative valence as the reference group) as predictors of attribution frequency. The results showed that there was no significant difference between the frequencies of neutral versus negative attributions, b = -.17, SE = .23, p = .463, CI_{95%}[-.623, .283]. However, positive attributions occurred with significantly higher frequency than negative attributions, b = .84, SE = .24, p = .001, CI_{95%}[.368, 1.320]. To examine differences in the frequency of positive and neutral themes, we changed the reference category to neutral valence. Our results showed that positive attributions occurred with significantly higher frequency than neutral attributions, b = 1.01, SE = .19, p < .001, CI_{95%}[.652, 1.375].

Research Question 3a: Is Relationship Satisfaction Associated with the Relative Frequency of the Attribution Valences (Neutral, Positive, Negative)?

In our second model, in addition to including attribution valence as a predictor of attribution frequency, we added relationship satisfaction and the two-way interactions between relationship satisfaction and attribution valence. This allowed us to test whether the frequencies of positive, negative, and neutral attributions were differentially associated with relationship satisfaction. The results showed that a lower frequency of negative attributions,

²Supplemental analyses were conducted to assess whether findings changed after controlling for demographic effects. This was accomplished by including ethnicity, relationship type, employment status, and education as covariates in the GEE analyses. Associations were slightly attenuated, but the direction and statistical significance of the coefficients were unchanged.



b = -.11, SE = .02, p < .001, CI_{95%}[-.156, -.065] as well as a higher frequency of both positive attributions, b = .20, SE = .04, p < .001, $CI_{95\%}[.128, .271]$ and neutral attributions, b = .18, SE = .05, p < .001, CI_{95%}[.086, .276] were associated with higher relationship satisfaction.

Research Question 3b: Is Sexual Satisfaction Associated with the Relative Frequency of the Attribution Valences (Neutral, Positive, Negative)?

In our third model, in addition to including attribution valence as a predictor of attribution frequency, we added sexual satisfaction and the two-way interactions between sexual satisfaction and attribution valence. The results showed that a lower frequency of negative attributions, b = -.13, SE = .02, p < .001, CI_{95%}[-.177, -.090] as well as a higher frequency of both positive attributions, b = .23, SE = .04, p < .001, CI_{95%}[.154, .308] and neutral attributions, b = .23, SE = .04, p < .001, CI_{95%}[.147, .316] was associated with greater sexual satisfaction.³

Discussion

Given the high prevalence of pornography use, including by individuals in long-term romantic relationships, there is a need to understand whether and how pornography use influences relationship processes and outcomes (Newstrom & Harris, 2016). An important component of this broader inquiry is investigating how individuals construct the meaning of their partner's pornography use. This is because there is extensive past research on relationship attributions that demonstrates that the idiosyncratic meaning that an individual attaches to their partner's behavior shapes subsequent interactions between partners (Fincham, 2001; Harvey, 1987). Therefore, we examined the types of attributions that women make of their male partner's perceived pornography use and the associations between such attributions and their relationship and sexual satisfaction. The current study is one of the first to apply an attributional framework to examine how women in longterm romantic relationships attribute meaning to their partner's perceived pornography use (see also Poulsen et al., 2013) and, to our knowledge, it is the only study that has used both qualitative and quantitative methods to assess attributions of perceived pornography use. The results suggest that women's attributions about their partner's perceived pornography use are complex and meaningfully related to their feelings about their relationship.

Women's Attributions about Their Partner's Perceived **Pornography Use**

Our results showed that there are a range of meanings that women associate with their partner's perceived pornography

use, challenging perspectives that paint a one-sided and negative picture of pornography use in the context of intimate relationships (Bergner & Bridges, 2002). That is, although several negatively valanced themes emerged in our data, several positive and neutral themes also emerged. Indeed, participants were significantly more likely to make positive attributions about their partner's perceived pornography use than to make negative or neutral attributions. Our finding that partner's perceived pornography use is interpreted in many different ways by women is consistent with broader research patterns in the literature on attributions in intimate relationships which suggest that the meaning an individual makes of their partner's behaviors is a complex mixture of own attitudes, personality, and relationship processes (Fincham, 2001). The study also added to the literature by showing that many women make neutral attributions about their partner's pornography use - indeed, approximately one-quarter of the total attributions reported were neutral attributions. The high frequency of positive and neutral attributions is consistent with some emerging evidence that suggests that norms around the acceptability of pornography use are changing such that pornography use is being viewed as more acceptable than it has been in the past. For example, Gallup poll data show that the percentage of Americans aged 18 to 49 who consider pornography to be "morally acceptable" increased from 53% in 2017 to 67% in 2018 among men and from 37% in 2017 to 41% in 2018 among women (Dugan, 2018).

Our findings contrast with some past work on how women construe the meaning of their partner's pornography use. In a previous study, Bergner and Bridges (2002) assessed women's attitudes toward their partner's pornography use by collecting and thematically analyzing 100 letters posted on internet message boards by romantic partners of men perceived to be "heavily involved" in pornography use by their partners. The authors only found negative themes in the letters they analyzed and suggested that, for the majority of women in their sample, the discovery of a partner's pornography use is a traumatic event and negatively affects "her relationship with her partner, her view of her own worth and desirability, and her view of the character of her partner" (p. 195). In a subsequent study, Bridges et al. (2003) recruited a more diverse sample of women and did not limit their recruitment to women who had concerns about their partner's pornography use. In this different and more diverse sample of women, the authors found that many of their participants did not endorse the extremely negative view of pornography that was found in their previous study, but tended to be "lukewarm in their endorsement of positive attitudes" toward their partner's pornography use (p. 10). One reason for the different pattern of results between the current study and the work conducted by Bridges et al. (2003) is that the latter was published in 2003 and there may be significantly greater acceptance of pornography use now (also see discussion above). As well, there are important methodological differences between the two studies, with the current study using open-ended responses that allowed women to write their own attributions, while Bridges et al. (2003) asked women to use the Pornography Distress Scale to rate their agreement on attitudes toward partner's pornography use. Although this scale includes items assessing positive as well as negative

³We reanalyzed the data excluding participants who responded "no" to the question, "To your knowledge, has your partner ever used pornography since you and he/she have been together. We are not asking about your partner's pornography use in the past, but rather while in the current relationship with you". The pattern of results for the quantitative analyses remained the same when we excluded these participants from the analyses. We excluded these participants because they are a conceptually distinct group; these participants were excluded in response to feedback received during the peer-review process.

attitudes toward partner's pornography use, the negative items were based on the results from the Bergner and Bridges (2002) study that recruited a sample of women who perceived their partner's pornography use as problematic. Furthermore, our study's methodology allowed us to investigate neutral attributions as a separate category from positive and negative attributions and the results showed that many of our participants viewed their partner's perceived pornography use as not reflecting anything positive or negative about themselves, their partner, or their relationship.

Association between Attributions and Relationship Well-being

The type of attributions that women make of their partner's pornography use is an important question in its own right because it informs us about the range of meanings that women attach to their partner's pornography use. In addition, the types of attributions women make about their partner's pornography use also are likely influenced by the global sentiments that women have about their relationships. For instance, women who are in a happy, trusting relationship may be more likely to make positive attributions about their partner's pornography use because they have positive expectations of their partner's behavior and thus are likely to assume benign or positive intentions on the part of their partner. Also, as the quality of a relationship declines, behaviors such as pornography use that may have previously been viewed in positive or neutral terms may be viewed more distrustfully (Fincham, 2001). In the current study, our design could not speak to the possible directional effects of pornography attributions and relationship quality; however, we examined how the frequency of positive, negative, and neutral attributions was associated with women's relationship and sexual satisfaction. The pattern of results was the same for relationship and sexual satisfaction and suggested that higher frequency of positive attributions and neutral attributions and lower frequency of negative attributions was associated with greater relationship satisfaction and sexual satisfaction. Importantly, these associations were all unique, suggesting that there are different underlying mechanisms that explain the link between each of these attributional categories and relationship and sexual satisfaction.

Even though negative attributions about partner's perceived pornography use was the lowest frequency of all valences, this category was significantly associated with lower relationship satisfaction and sexual satisfaction. Although we did not test the specific mechanisms that may underlie this association, we can speculate on possible mechanisms. It is possible that negative attributions about a partner's perceived pornography use occur as part of other negative relationship processes, such as lack of trust, lower levels of intimacy and closeness, and less openness and communication about pornography use; these relational processes have previously been linked to lower relationship and sexual satisfaction (Rubin & Campbell, 2012). Conversely, when women interpret their partner's perceived pornography use in a positive light, it might reflect more open sexual communication, a more flexible sexual repertoire, or enhanced responsiveness to their partners' sexual needs; all of these factors have been linked to higher sexual and relationship satisfaction in past studies (Rehman et al., 2019). These potential interpersonal mechanisms will need to be investigated in future longitudinal work and could shed light on whether it is pornography use per se or negative attributions about pornography use, occurring in a broader context of intimacy enhancing or intimacy diminishing interpersonal processes, that predict the negative longitudinal relational outcomes of pornography use that have been observed in past longitudinal studies (Perry & Davis, 2017).

It is also interesting that higher neutral attributions were uniquely associated with higher relationship and sexual satisfaction. A neutral response might convey a lack of judgment, which supports autonomy and acceptance in the relationship (Collins, 1996). Feeling accepted and autonomous are also factors that promote sexual desire and satisfaction (Kozlowski, 2013). For example, it is possible that women who endorse more neutral attributions about their partner's perceived pornography use are more likely to view it akin to a hobby or interest, and this construal may be a result of their overall tendency toward acceptance of partner behavior, interests, and goals.

Our study may have implications for therapists working with mixed sex/gender couples where pornography use is a presenting issue. In addition to gathering information about frequency of use, therapists should probe the attributions that each partner makes for pornography use. There may also be value in asking specifically about attributions related to each of the domains we assessed (self; partner; relationship). The therapist could facilitate a discussion in which each partner has a chance to elaborate and clarify the subjective meaning they attach to pornography use. It may help the "high-use" partner to understand the other's perspective or needs and may also give the other partner a chance to examine - both for themselves and interpersonally - why they find their partner's use upsetting. This could broaden the conversation from the use itself to relationship and other factors that are reducing intimacy and closeness between partners, thus softening the discussion around a potentially emotionally charged relationship issue.

Limitations and Directions for Future Research

It is important to note the limitations of the current study. Our study used an online sample which could raise concerns about the generalizability of our results. Although researchers have found that online samples do not tend to be less generalizable than other types of convenience samples (Buhrmester et al., 2011), certain demographics, such as older adults, tend to be under-represented in online studies (Goodman et al., 2013). This study also included women who were mostly White and there was limited variability in socioeconomic status and educational background. In future work, it will be important to examine if the findings generalize to individuals and couples from more diverse backgrounds. Another limitation of the current research is that we did not assess religiosity or religious affiliation. A recent meta-analysis has shown that, across studies, there is a robust association between moral incongruence regarding pornography use, defined as the

experience or belief that one's pornography use is inconsistent with one's moral beliefs, and self-perceived problems associated with pornography use (Grubbs et al., 2019). Studies have also suggested that a spouse's religious beliefs intensify the negative effects of pornography use on marital quality (Perry, 2016). Another limitation of the current study is that we assessed women's perceptions of pornography use and did not gather data from male partners about their use. In future work, this limitation can be addressed by gathering information about self and partner pornography use from both partners. Such data could be used to examine whether self-reports of frequency of pornography use covaries with the types of attributions women make of their partner's use; for example, it is possible that women are more likely to make negative, as compared to positive and neutral attributions, when their partners are reporting high frequency of pornography use.

The current findings are a first step in understanding women's attributions about their partners' pornography use and much work is yet to be done. An important question to investigate is whether it is a partner's overall tendency to make negative attributions for her partner's behavior, or specifically the negative attributions about pornography use, that predict lower relationship satisfaction and sexual satisfaction. This question will allow us to clarify the specific contribution of pornography attributions to relationship satisfaction and sexual satisfaction, above and beyond the effects of an individual's overall tendency to make negative attributions about partner behavior.

Another important line of inquiry in future work is to examine how communication about pornography use relates to the types of attributions that individuals endorse about their partner's pornography use. One of the ways that romantic partners clarify the misattributions that the other partner makes about a particular behavior is by discussing them with each other. However, communication about pornography use tends to be avoided by couples, particularly by men (Gautreau et al., 2018). Thus, compared to other relationship issues, there may be less opportunity to clarify the misattributions that one partner may make about the other's pornography use, with negative implications for relationship well-being.

In future work examining attributions of partner's pornography use, there needs to be more careful methodological attention to assessing how relational partners use pornography and how different patterns of use might be associated with different attributions. Past research has shown that partners vary on whether they use pornography together, alone, or both, and these different patterns of use are associated with varying levels of relational and sexual well-being in mixedgender/sex couples (Willoughby & Leonhardt, 2018). Another direction for future inquiry is to examine how partner attributions are associated with self-perceived effects of pornography use (the self-perceived effects are also referred to as perceived impact in past research) (Kohut et al., 2017; Miller et al., 2018). The type of attributions that are made of pornography use are expected to influence the perceived effects of pornography use, such that individuals who attribute their partner's behavior to factors such as avoidance of intimacy would be likely to have attentional biases that lead them to perceive the effects of their partner's pornography use in more negative ways.

Conclusion

The current study showed that women's attributions of their male partner's perceived pornography use vary greatly and can be positive, negative, or neutral in valence. Furthermore, all three categories of attributions vary systematically with indices of relationship and sexual satisfaction in expected directions. The findings underscore the importance of understanding the subjective construals of partner behavior and suggest that, in the case of perceived pornography use, it is important to understand how women make meaning of their partner's perceived pornography use, if we are to have a more comprehensive understanding of how pornography use influences romantic relationship quality and stability. Our results also suggest that the attributional framework provides a rich lens for investigating how pornography use is construed by romantic partners and how the idiosyncratic meaning that an individual attaches to their partner's perceived pornography use may have implications for relationship and sexual satisfaction.

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