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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 pornography use and whether such attributions covary with women's relationship satisfaction and sexual satisfaction. We recruited 189 women and asked them to complete 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 pornography use. Qualitative analyses revealed 11 themes in women's attributions of their partner's 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 was 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. Future research on the relational effects of pornography use needs to consider the attributions individuals make for their partner's use.

Pornography use is defined as the intentional consumption 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, Padilla-Walker, Nelson, Olson, McNamara, & Madsen, 2008). Although estimates tend to vary, converging evidence suggests that pornography use is a highly prevalent sexual behaviour (Cooper, Delmonico, Griffin-Shelley, & Mathy, 2004). For example, using survey data of nationally representative samples from the United States, Regnerus, Gordon, and Price (2015) 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, Daneback, Shaughnessy, Grov, & Byers, 2017; Wright, Tokunaga, Kraus, & Klann, 2017).

An emerging area of interest for relationship and sexuality researchers is how pornography influences the dynamics of a couple's sexual relationship (Wright, Tokunaga, Kraus, & Klann, 2017). In the current study, we build on past literature examining the interplay between relationship processes and pornography use by investigating the attributions that women make for their romantic partner's pornography use in mixed-gender/sex¹ couples. To understand how an attributional framework can provide unique insight in understanding the interpersonal context of pornography use, we provide a brief overview of the key findings that have emerged from the application of attribution theory to interpersonal processes. Attribution theory concerns how individuals explain the causes of behaviours and events (Fiske & Taylor, 1991). Such interpretations can include inferences of responsibility for an event, such as the assumption that a

particular behaviour by the partner was out of their volitional control, as well as judgements about the traits and characteristics of others. Past applications of attribution theory to romantic relationships have demonstrated that: (1) attributional activity is pervasive in interpersonal relationships (Harvey, 1987). That is, romantic partners are constantly engaging in efforts to understand their partner's behaviours, particularly negative or unexpected behaviours; (2) individuals tends to make biased attributions of their partner's behaviour, based on their own beliefs, experiences, goals, and expectations (Jacobson, McDonald, Follette, & Berley, 1985); and (3) there is a robust association between the types of attributions partners make and their relationship quality (Fincham, 2001). For example, individuals in more satisfied relationships tend to view negative partner behaviour as internally motivated and positive partner behaviour as externally motivated and the opposite pattern is observed for individuals in distressed relationships. In light of the critical role that attributions play in how individuals interpret and respond to their romantic partners, our goal was to use this theoretical framework to examine how individuals in romantic relationships interpret the meaning of their partner's pornography use. Given that the same partner behaviour (e.g., partner's pornography use) can be interpreted in different ways and that the idiosyncratic meaning that an individual attaches to the behaviour impacts how he/she responds, regardless of the actual motivation underlying the behaviour (Jacobson, McDonald, Follette, & Berley, 1985), we wanted to examine individual differences in the attributions women make about their partner's pornography use and to examine how the meaning they construct is associated with their relationship and sexual satisfaction.

Attributions about Partner's 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 behaviour 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 behaviour 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, the attributions that Layna could make may vary considerably; however, to date, researchers have not investigated the range of different attributions that an individual may make 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 (Bridges & Morokoff, 2011; Poulsen, Busby, & Galovan, 2013; Stewart & Szymanski, 2012). 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 (Clark & Wiederman, 2000; Daneback, Traen, & Mansson, 2009; Poulsen et al., 2013).

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 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 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 Pornography Use

To date, no study has investigated the attributions that individuals make for their partner's pornography use. Although Pulson, Busby, and Galovan (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: (1) *Pornography is an acceptable way for couples to 'spice up' their love life*; (2) *Viewing pornography is an acceptable way for married adults to express their sexuality*; (3) *Pornography objectifies and degrades women*; and (4) *Pornography is a form of marital infidelity*. In another study, Kohut and colleagues (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 and Malamuth, 2008), are constructs that are conceptually linked, but distinct. Attributions reflect an individual's perceptions of the causes of an event or behaviour whereas perceived impact refers to an individual's subjective assessment of the effects of an event or behaviour. 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; Pulson 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 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, Chen, Schocke, & Hertzog, 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 elicitation based methodology. We opted for this methodology over a questionnaire based rating scale because the current state of research on pornography attributions is not such we have a comprehensive understanding of the types of attributions individuals make for their partner use. Thus, if a goal is to identify the range and type of attributions, an open-ended methodology is more appropriate for that goal. In our first research question, we expected our qualitative analyses to show that individuals' attributions about the same behaviour (partner's pornography use) will vary in both their valence (positive, negative, neutral) and content.

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 (Fisher & Kohut, 2017; Kohut & Campbell, 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, Traeen, & Mansson, 2009), and to enhance the sexual connection between partners (Kohut, Fisher, & Campbell, 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 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 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, Busby, & Galovan, 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 well-being (Fincham, 2001), it is likely that greater positive attributions would be associated with higher relationship and sexual satisfaction. Note that it is 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). We did not offer specific predictions for the association between either relationship outcome and neutral attributions.

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 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.

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, Kwang, & Gosling, 2011).

The final sample consisted of 199 female participants. Table 1 lists the demographic characteristics of our sample.

Measures

Background Questionnaire. Participants were asked to provide demographic information. First, they were asked to enter their age in numbers with the following question, “*Please enter your age*”. The question assessing sexual orientation asked, “*Do you consider yourself to be*” and then provided the following response options: “*Heterosexual or straight*”, “*Homosexual*”, “*Bisexual*”, “*Asexual*”, “*Pansexual*”, “*Prefer not to answer*”, and “*Other*”.

Participants were also asked to report their gender and their partner’s gender with the questions, “*What is your gender?*” and “*What is your partner’s gender?*”. Response options were identical for both questions, and they were “*Female*”, “*Male*”, “*Non-binary/third gender*”, and “*Prefer not to say*”. There were also several questions asking about the participant’s relationship.

Relationship status was assessed with the following question, “*Please select which of the following applies to your relationship status*”. Response options were: “*I am married*”, “*I am not married but I am in a long-term, committed relationship*”, and, “*I am single*”. Participants were also asked about their relationship length using the question, “*How long have you been in your current relationship?*”, in which participants responded by typing in the number of “*Years*” and “*Months*”. Cohabitation status was asked with the question, “*Are you currently living with your romantic partner?*” and the participants responded with “*Yes*” or “*No*”. Participants also provided information about their relationship type by answering the question, “*Would you describe your current relationship/marriage as*” and the response options were: “*An*

exclusive/monogamous relationship (we have sex only with each other)”, “*A nonexclusive/non-monogamous relationship (one or both of us has, or has had, sex with others despite a commitment not to)*”, “*An open sexual relationship (we have agreed that we can have sex with other partners)*”, and “*Other*”. After the relationship questions, participants were asked to report their ethnicity with the following question, “*To which ethnic group do you belong?*”. The response options were: “*Caucasian*”, “*African Descent*”, “*Hispanic*”, “*South Asian*”, “*Other Asian*”, “*First Nation*”, and “*Other*”. The numbers of years of education was assessed with the question, “*How many years of education have you completed (starting with Grade 1)?*” in which they responded by typing in the number of years. Lastly, participants reported their employment status, “*Are you currently employed?*”. Response options were: “*No, I am currently unemployed*”, “*No, I am a temporary/seasonal worker*”, “*No, I am retired*”, “*Yes, full time*”, and “*Yes, part time*”.

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 5 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, Purdon, & Rehman, 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, & Cohen, 2020). 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 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 background questionnaire. Next, participants completed a questionnaire assessing partner’s pornography use and three open-ended questions that elicited attributions of partner’s 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 are not the focus of the current study.

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

Coding of the responses to the open-ended pornography use 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 (authors masked) 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 co-authors (authors masked). 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: (1) when a particular example could reasonably belong to

multiple categories, we clarified the description of the categories to reduce overlap/redundancy; (2) we merged categories that appeared to be thematically closely linked and difficult to distinguish; and (3) 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 behaviour, 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, 1968). 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 were coded across three valence categories (negative, neutral, and positive) using an ordinal measure of frequency ranging from

0-3. 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, Edwards, Eiden, & Leonard, 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, Liang, & Albert, 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 Pornography Use?

The first goal of our study was to identify the types of attributions women make about their partner's 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 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 pornography use reflects on themselves or their relationship. This also occurred for responses to other two domains (self; relationship). Thus, in our qualitative and quantitative analyses, we focus 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*, and *Relationship in Jeopardy*. First, in terms of negative self-attributions, some participants indicated that their partner's 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 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 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 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 pornography use to their relationship being in jeopardy. These responses suggested that the participant viewed their partner's 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 pornography use as reflecting positively on themselves, in particular their open-mindedness and acceptance of the partner’s sexual behaviours and preferences. For example, some participants noted their own non-defensive and nonjudgmental stance toward their partner’s pornography use fostered open disclosure about sexual behaviours and interests. The two codes that suggested that the partner’s pornography use reflected positively on him comprised the following content areas: (a) the partner’s pornography use was viewed as part of his healthy and normal sexual desires, and (b) the partner’s 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 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 does not want to take part in.

Neutral Attributions

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. 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 and 3, the unit of analysis was the frequency of all: (1) positively valenced attribution responses, (2) negatively valenced attribution responses, and (3) neutrally valenced 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.³

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, $\chi^2 = 31.59, p < 0.001$. 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, $b = -.11, SE = .02, p < .001, CI_{95\%} [-.156, -.065]$ 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.²

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 behaviour shapes subsequent interactions between partners (Fincham, 2001; Harvey, 1987). Therefore, we examined the types of attributions that women make of their male partner's 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 long-term romantic relationships attribute meaning to their partner's pornography use (also see, Poulson, Busby, & Galovan, 2013) and, to our knowledge, it is the only study that has used both qualitative and quantitative methods to assess attributions of pornography use. The

results suggest that women's attributions about their partner's pornography use is complex and meaningfully related to their feelings about their relationship.

Women's Attributions about their Partner's Pornography Use

Our results showed that there are a range of meanings that women associate with their partner's 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 valenced 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 pornography use than to make negative or neutral attributions. Our finding that partner 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 behaviours 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, Bergener 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 effects "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, Bergner, and Hesson-McInnes (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 attitudes toward partner's pornography use, the negative items were based on the results from the Bergener 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 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 to this, the types of attributions women make about their partner's pornography also are likely to be 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 behaviour and are more likely to assume benign or positive intentions on the part of their partner. Also, as the quality of a relationship declines, behaviours such as pornography use that may have previously been viewed in positive or neutral terms may be viewed more distrustfully. In the current study, our study 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 is 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 pornography use was the lowest frequency of all valences, this category significantly predicted 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 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 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 [author masked]. 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

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 behaviour, interests and goals.

Our study also has implications for therapists working with couples where pornography use is a presenting issue. Our findings suggest that, 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*) and to see the concordance between partners on the attributions they make as well as the range of attributions each partner makes for pornography use. This could facilitate a discussion where each partner has a chance to elaborate and clarify the subjective meaning they attach to pornography use. It may help the “high-use” partner understand the other’s perspective or needs and may also give the other partner a chance to examine – both for themselves and interpersonally – why their partner’s use is upsetting for them. 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 an issue where both partners have likely become quite polarized.

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, Kwang, & Gosling, 2011), there is a concern that certain demographics, such as older adults, tend to be under-represented in online studies (Goodman, Cryder, & Cheema, 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 significant limitation of the current research is that we did not assess religiosity or religious affiliation. Past work has demonstrated that a spouse's religious beliefs intensify the negative effects of pornography use on marital quality (Sherry, 2016). If we had assessed religiosity, we could have examined the extent to which religiosity covaries with the types of attributions that women make for their partner's pornography use. Another significant limitation of the current study is that we only had data from women about their partner's pornography use and we did not gather data from male partners about their pornography use. Such partner data would have served an important corroborating function. Further, we could have examined whether partner's reports of their level of pornography use covaries with the 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.

Nonetheless, the 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 behaviour, 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 behaviour.

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 behaviour is by discussing it with each other. However, communication about pornography use tends to be avoided by couples, particularly by men [author masked]. 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 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 have been shown to be associated with varying levels of relational and sexual well-being in mixed-gender/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 (Kohut et al., 2017; Miller, Hald, & Kidd, 2018). For instance, couples may vary significantly in the degree of concordance between partner attributions and self-perceived effects of pornography use; the variability on this dimension could shed light on broader relationship processes and their role in influencing the relationship outcomes associated with pornography use. We would expect that couples where there is greater trust, openness, and higher levels of sexual communication would be characterized by similarity in the how one partner views the impact of pornography on their life and the attributions the other partner makes of their pornography use. Conversely, relationships with lower concordance may be characterized by more avoidant sexual communication and where there may be great fear and shame around pornography use.

Conclusion

Our results support the integration of attributions into theoretical models of pornography use and its implications (e.g., XXX). The current study showed that women's attributions of their male partner's 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 behaviour and suggest that, in the case of pornography use, it is important to understand how women make meaning of their partner's 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 pornography use may have implications for relationship and sexual satisfaction.

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Footnotes

¹ In keeping with the recommendation of Hyde, Bigler, Joel, Tate, and van Anders (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.

² We 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.

³ Supplemental 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.

