BELIEF ABOUT PORNOGRAPHY USE AND ITS

RELATIONSHIP WITH COUPLE SATISFACTION,

SEXUAL SATISFACTION, AND ACTIVE-EMPATHIC

LISTENING: AN EXPLORATORY ANALYSIS

By

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Abstract: Pornography use and relationship outcomes have been studied through multiple frameworks and with numerous associated factors, including beliefs held regarding pornography use. To further clarify and test the association between belief regarding pornography use and relationship outcomes, including couple satisfaction, sexual satisfaction, and active-empathic listening, two phases of analyses were conducted, using symbolic interaction theory to underpin the analyses. Using a sample of 182 ($N = 182$) individuals in romantic relationships who experience the use of pornography within the context of their romantic partnership, a MANCOVA test, and three ANCOVA analyses were conducted. Dummy coded variables derived from qualitative research, comprising a portion of the same larger dataset, were utilized as an independent grouping variable and included three groups; those who reported beliefs that pornography use was beneficial, detrimental, and ineffectual to their relationships respectively. Dependent variables included couple satisfaction, sexual satisfaction, and active-empathic listening, and participant gender and relationship status were added as covariates. No significance was detected in the MANCOVA test, or in the three ANCOVA tests, however significance was detected in the association of the covariate relationship status and sexual satisfaction, and for the covariate of gender and active-empathic listening. The placement of these findings within the broader literature, their limitations, and their implications and potential questions for future research are discussed.

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CHAPTER I

INTRODUCTION

Viewing or otherwise consuming sexually explicit material, commonly referred to as

pornography, is widespread in the United States among individuals of differing genders, racial

identities, and sexual orientations (Daspe, 2018; Rothman et al., 2015; Træen & Daneback, 2013;

Wright, 2013). The virtually ubiquitous availability of smart phones and internet access (Vogels,

2019) means that pornography is readily available to consumers. In one sample, a large majority

of adult men and women, 98% and 73% respectively, had consumed pornography within the

previous six months (Daspe et al., 2018) and in a different sample 50% of casually dating men

reported using pornography weekly (Carroll et al., 2017). The consumption of sexually explicit

material isn't a new phenomenon, and pornography use has been researched and debated in

public policy circles for decades with both proponents and critics of its consumption, along with a

myriad of associations investigated along with its use (Rassmussen, 2016).

In some samples, pornography use has been related to risky sexual behavior bi-

directionally (Træen & Daneback, 2013), positively associated with loneliness (Butler et al.,

2018), associated with increases in the likelihood of engaging in non-consensual extradyadic

sexual behavior (Ferron et al., 2016; Lambert et al., 2012), and a decreased likelihood of

individuals reporting a willingness to intervene when witnessing sexual assault (Foubert et al.,

2011). On the other hand, adolescents have identified pornography use as a means of gaining

understanding of themselves and potential

sexual partners (Attwood et al., 2018; Scarcelli, 2015). It has also been argued that the evolution and use of pornography has been the bridge between the gap of changes in discourse around sex during the sexual revolution, and the actual expansion of sexual acts in the lives of couples and individuals (Escoffier, 2014).

In expanding the scope of investigation across broader samples, findings in reviews and meta-analyses that, all told, include thousands of research participants – and include cross-sectional and longitudinal analyses – have identified associations between pornography use and lower relational and sexual satisfaction for many, but not all, participants (Newstrom & Harris, 2016; Wright et al., 2017). The direction of this association and the mechanisms through which it impacts couple and individual outcomes is the subject of ongoing research. For example, in one sample the association between pornography use and relational satisfaction was partially mediated through a decrease in partner's self-esteem (Stewart & Szymanski, 2012), in contrast to a separate analysis in which pornography use and sexual and relational satisfaction were mediated through masturbation (Miller et al., 2019). The complexities and contradictions in the findings related to pornography use continue to necessitate more varied, sophisticated, and nuanced studies of pornography use.

One criticism of the research on the impacts of pornography use, is that much of it has been conducted on individuals as opposed to dyads (Campbell & Kohut, 2017). While many people utilize pornography individually for masturbation and personal sexual pleasure (Bridges & Morokoff, 2011; Miller et al., 2019) its dyadic associations with couple outcomes have been documented (Brown et al., 2017; Muusses et al., 2015; Poulsen et al., 2013). Indeed, dyadic factors such as honesty regarding pornography use (Resch & Alderson, 2014) and the variance in a partner's sexual satisfaction by an individual's use of pornography, as well as by the variance between rates of use within a partnership (Brown et al., 2017) support the utility of studying pornography in the context of dyads in romantic relationships.

The meaning that individuals ascribe to pornography use also appears to be a meaningful aspect of the way pornography use is experienced. In more actively religious individuals, higher rates of pornography use is more likely to be reported as an addiction and more likely to be accompanied by a sense of shame (Volk et al., 2016). For some women, their enjoyment of pornographic material varies depending on whether they perceive the female actors involved to be enjoying themselves (Parvez, 2006) and many individuals report experiencing benefits of pornography for their romantic relationships (Kohut et al., 2017) or as a force driving their sexual empowerment (Weinberg et al., 2010). Even what is considered to be pornography varies between individuals, with some individuals reporting that graphic depictions of adults engaged in sexual intercourse with genitals being shown as definitely not pornography, and others reporting that individuals posing provocatively in swimsuits definitely is pornography (Willoughby & Busby, 2016).

Utilizing symbolic interaction theory (Blumer, 1969; LaRossa & Reitzes 1993), the present study seeks to expand the literature on the nuances of the associations of pornography use and relational factors by examining them as they vary by the beliefs held regarding pornography use by individuals who have a member within their romantic relationships who uses pornography. Specifically, this study will analyze a group of 182 individuals in romantic relationships. and examine first whether differences exist between groups of individuals who express a belief that pornography use is beneficial for relationships, those who believe pornography use is detrimental for relationships, and those who do not believe pornography use impacts relationships, on three relationship factors. The specific factors that will be examined will be couple satisfaction, sexual satisfaction, and active-empathic listening. If group differences are identified, further investigation will be conducted to determine where and in what direction the associations lie, with the hypothesis that those who believe pornography use is beneficial for their relationships

will experience higher couple satisfaction, sexual satisfaction, and active-empathic listening than other groups.

CHAPTER II

LITERATURE REVIEW

It has been proposed that pornography use is associated with reductions in satisfaction within couple relationships (Maas et al., 2018), in sexual satisfaction (Leonhardt & Willoughby, 2019), increases in secret extra-relational sexual or romantic relationships (Gwinn et al., 2013), and some individuals report experiencing a difficulty regulating their frequency of pornography use even when disapproving of pornography use (Volk et al., 2016). On the other hand, pornography use has also been found to be associated with increases in couple sexual satisfaction (Brown et al., 2017), relational satisfaction for women (Perry, 2017), and has been described as a conduit to enhancing the relationship dynamic between couples and as a way that women can gain empowerment and representation in an industry that largely privileges male sexual pleasure and experiences (Ashton et al., 2018; Fritz & Paul, 2017; García-Favaro, 2015; Weinberg et al., 2010).

This complexity, and the contradictory findings within the scientific literature, have led researchers to examine what situations, populations, and interactional components explain the differing associations between pornography use and outcomes in couple's satisfaction within the relational and sexual components of their relationships. Many individuals utilize pornography for personal sexual pleasure (Bridges & Morokoff, 2011; Carvalheira et al., 2015) or as a form of education or idea generating media to inform their sexual interactions with romantic partners

(Kohut et al., 2017; Pariera, 2015). Others use pornography with their romantic partners (Carroll et al., 2017) or at the request of or in an attempt to understand a romantic partner (Scarcelli, 2015). In some samples, individual pornography use by men is associated with lower satisfaction in romantic relationships, while joint use of pornography is associated with increases in couple sexual satisfaction (Willoughby & Leonhardt, 2018) highlighting that context of pornography use, both context as gender and context as partnered versus individual use, may be influential in any possible impacts of pornography use.

Many of the studies conducted on the associations between pornography use and individual and relational wellbeing have utilized cross-sectional designs (Newstrom & Harris, 2016) and, consequently, the identified associations should be interpreted with caution. In such studies that have identified connections between pornography use and diminished relational or sexual satisfaction (Jafarzadeh Fadaki, & Amani, 2015; Leonhardt & Willoughby, 2019) it is as plausible that pornography use influences an individual in a way that impacts their relational satisfaction as it is that those with lower relational satisfaction are more likely to use pornography. It is also possible that links between pornography use and measures of wellbeing are partially or largely explained through other, less explored variables.

Qualitative analyses on pornography use have highlighted nuanced beliefs held regarding pornography use. Some individuals express beliefs that using pornography allows for learning new sexual positions to use with a romantic partner or to increase the sense of erotic climate before a sexual encounter with their partner (Shuler et al., 2021). Some teens have described using pornography use to educate themselves about sexual intercourse, and others describe receiving requests from sexual partners to view a certain video to the end of attempting to reenact the portrayed scene with their partner (Scarcelli, 2015). Adding to the complexity, when asked about the impacts of pornography use on relationships many respondents report "no negative effects" (Kohut et al., 2017) or report "no effect" (Shuler et al., 2021).

In longitudinal analyses, the complexities of pornography use and couple and relational satisfaction continue to be evident. In one sample of heterosexual newlyweds, pornography use predicted a decrease in relationship satisfaction for men, and men's sexual satisfaction was negatively related to their female partner's later use of pornography, but no other significant associations (Muusses et al., 2015). In contrast, a separate analysis identified negative associations between pornography use and later relationship satisfaction for both men and women, with the exception of women who used pornography more than once a month, in which case pornography use predicted increases in relationship satisfaction (Perry, 2017). These variations in associations between pornography use and couple and relational satisfaction highlight the need for further exploration of what factors underpin the relationship between pornography use and satisfaction in couple relationships and sexual satisfaction and in what contexts these associations arise.

Differential Associations of Pornography Use, Couple Satisfaction, and Sexual Satisfaction

One of the complexities of the relationships between pornography use and relational outcomes, is that the direction of the association has been found in some instances to vary by the gender of the participant (Perry, 2017; Wright et al., 2017). Furthermore, the influences of an individual's pornography use on a partner and on the overall relationship also vary by the gender of the participant (Bridges, & Morokoff, 2011). For men, pornography use is bi-directionally associated with satisfaction in intimate relationships (i.e. pornography use both predicts and is predicted by decreases in relationship satisfaction), though not for women (Muusses et al., 2015). Men's use of pornography also predicts a decrease in the sexual quality of both men and women in a relationship, and sexual quality is in turn associated with both men and women's relationship satisfaction (Poulsen et al., 2013). Women's use of pornography is sometimes associated with an increase in the sexual quality of her relationship (Poulsen et al., 2013) and sometimes with a decrease in her sexual satisfaction (Brown et al., 2017). Women's use of pornography is also

associated with an increase in men's relationship and sexual satisfaction (Bridges, & Morokoff, 2011) and an increase in the sexual satisfaction of the couple (Brown et al., 2017).

Amount of pornography consumed has also been investigated as a component of the relationship between pornography use and relational outcomes. A difference in the amount of pornography consumption between men and women in heterosexual relationships predicts decreases in the quality of communication for both men and women, decreases in female sexual desire, and increases in male relational aggression (Willoughby et al., 2016). Female sexual desire is in turn positively associated with both men and women's relationship quality and stability. For men, the relationship between amount of pornography used and relational satisfaction was negative, with rates higher than once a month relating to lower satisfaction than use of less than once a month and daily use associated with the lowest sample rates of relationships satisfaction (Perry, 2017).

The experience of some individuals having a relatively high rate of pornography use, and some reporting it as akin to an addictive behavior, have also led researchers to examine associations between perceived pornography addiction and relational factors. Perceived addiction to pornography has been discussed and reported in multiple examinations of pornography use (e.g. Blais-Lecours et al., 2016; Daspe et al., 2018; Taylor, 2020; Volk et al., 2016). It is worth noting, however, that pornography addiction, sex addiction, and hypersexual disorder do not appear in the DSM 5 as classifications of mental disorders (American Psychiatric Association, 2013). Furthermore, attempts to add a hypersexual disorder to the DSM 5 were met with criticisms, noting a lack of empirical literature supporting the inclusion of sex addiction or hypersexual disorder as disordered behavior or as meeting the criteria of mental disorders (Reid & Kafka, 2014).

In some instances, however, concepts such as pornography addiction have been compared to other persistent behaviors that are difficult to regulate but which also do not appear in established diagnosable criteria (Taylor, 2020). Some individuals report perceptions of experiencing difficulty regulating their use of pornography, or report that their use is distressing, and clinicians have noted that some clients report that they feel that their pornography use is out of control or disruptive to their relationships (Reid & Kafka, 2014; Volk et al., 2016). Individuals who report problematic patterns of use with pornography have a similar neural response to desiring versus liking pornographic stimuli as neural responses in individuals who experience substance addiction (Voon et al., 2014). Furthermore, perceived addiction to pornography use is related to increased sexual functioning problems (Blais-Lecours et al., 2016) and at a use of daily or more often, pornography use is associated with reductions in relationship satisfaction (Harper & Hodgins, 2016). That this relationship may be reciprocal or have a reverse direction of association is highlighted by Daspe et al., (2018) who identified a relationship between lower relationship and sexual satisfaction and a feeling that pornography use is out of control.

In relationships where men and women use pornography together, women's pornography use predicts an increase in the quality of the sexual relationship for both men and women (Poulsen et al., 2013) and joint pornography use is associated with an increase in couple sexual satisfaction (Willoughby & Leonhardt, 2018), and a decrease in distress in regards to their partner's pornography use (Resch, & Alderson, 2014). Another mechanism explored in the association between pornography use and relational outcomes is the influence pornography has on evaluations of one's partner. In an experimental study, viewing sexually explicit material related to an increase in participant's positive evaluation of their own sexual behavior and a desire to be sexually closer to a romantic partner in the aftermath of exposure (Staley & Prause, 2013). In contrast, pornography use in other samples has been correlated with lower commitment to a romantic partner (Lambert et al., 2012), and participants who viewed pornography in a

second experimental study were more likely to engage in extradyadic behavior 12 weeks after the first wave of data collection through the mediator of increased attractiveness of alternatives to the current romantic partner (Gwinn et al., 2013).

It is evident from the seeming contradictions in findings around pornography use and the contextual factors that are associated with differential findings, that further investigations into the associations between pornography use and couple satisfaction and sexual satisfaction is warranted. One facet of romantic relationships that has received relatively little attention as it relates to pornography use and its associations with relationships is communication. Previous research has established that couples who use pornography regularly together, and couples who do not use pornography, had similar levels of open sexual communication and experiences of closeness while those who use pornography individually had lower levels of open sexual communication (Kohut et al., 2018). Furthermore, male pornography use is associated with lower male positive communication (Willoughby & Leonhardt, 2018) and discrepancies in how often partners utilize pornography also relates to lower positive communication (Willoughby et al., 2016).

Pornography, Communication, and Empathy

These findings suggest that pornography use and communication have a relation with one another, but like other aspects of pornography use the direction of association remains unclear. Communication, particularly empathic communication, has previously been established as a factor associated with relationship satisfaction (Cramer & Jowett, 2010; Hiew et al., 2016). Perceived empathy in romantic relationships is associated with increases in relationship satisfaction and a decrease in relational conflict (Cramer & Jowett, 2010), and empathic concern likewise predicts increases in relationship satisfaction (Łada & Kaźmierczak, 2019). That the *perception* of empathy, rather than the use of empathy itself, at least partially accounts for its

association with relationship satisfaction highlights the importance of ascribed meanings in romantic relationships. This same factor may have further salience for the study of pornography use and couple outcomes.

Meaning and Pornography Use

It has been hypothesized that participants' views on pornography would influence pornography consumption's impact on relationships (Poulsen et al., 2013; Szymanski et al., 2015). Results from analysis have been mixed. While controlling for factors such as education and religiosity of the sample, Brown et al., (2017) found that a couple's level of mutual opinion of the acceptability of using pornography predicted the levels of pornography use for both members of the relationship. Each partner's use of pornography was, however, predictive of a decrease in their individual sexual satisfaction. Furthermore, viewing pornography as a means to enhance the sexual relationship or viewing it as degrading to women fails to mediate between pornography use and the sexual quality of the relationship (Poulsen et al., 2013). Likewise, having a high or low view of the acceptability of pornography fails to moderate women's reports of their partner's pornography use and their psychological distress (Szymanski, et al., 2015). In contrast, for men who rate the acceptability of utilizing pornography as high, increased pornography use is associated with an increase in relationship satisfaction (Maas et al., 2018). For men and women who view pornography as less acceptable, however, increased pornography use predicts a decrease in relationship satisfaction.

Symbolic Interaction Theory

The diversity of experiences (Kohut et al., 2017), theoretical paradigms (Leonhardt et al., 2019), and relationship outcomes (Perry 2017; Weinberg et al., 2010; Willoughby et al., 2016) that individuals experience in regards to pornography use may suggest that pornography holds different meanings for different individuals. This diversity of meaning that pornography holds for

individuals lends itself to studying pornography use through the lens of symbolic interaction theory (Blumer, 1969; White et al., 2018). Symbolic interaction theory posits that objects and events (e.g. pornography) do not have intrinsic meaning, but rather that humans ascribe meaning to objects and events during the process of interacting with them and with other people around them (Aksan et al., 2009). The way that an individual interacts with objects and other people will be influenced both by the meaning they attach to that object, as well as to the meaning that they attach to themselves (LaRossa & Reitzes, 1993).

This theory may be particularly useful in studying and understanding pornography use because it provides a paradigm through which to understand individual and nuanced perspectives related to pornography use. Some individuals view pornography as empowering or liberating in their sexual experiences (Weinberg et al., 2010), while others morally disapprove of pornography use (Volk et al., 2016). Acceptance of pornography use when using pornography is associated with increased relationship satisfaction for men (Maas et al., 2018), morally disapproving of pornography use is associated with viewing one's own pornography use as compulsive and distressing (Volk et al., 2016), and a couple's acceptance of pornography use predicts their individual pornography use (Brown et al., 2017). These examples suggest that the symbolic meaning that individuals attach to pornography use may influence its impact on their own experience with pornography and how their pornography use impacts their relationships. Indeed, symbolic interaction has been used as a theoretical paradigm when studying pornography previously (see Newstrom & Harris, 2016).

The Present Study

The belief that an individual holds in regard to pornography use, or the meaning they attach to it, may be considered a symbolic representation with which a person interacts. As the symbolic meaning that viewing pornography holds for different individuals varies, it may in turn

have an influence on how they interact with others and even themselves around its use. These differing interactions may be associated with the variety of couple satisfaction, sexual satisfaction, and communication patterns previously found to vary among those who use pornography (Leonhardt & Willoughby, 2019; Perry, 2017; Willoughby et al., 2016). The present study will involve an exploration of the association between an individual's beliefs surrounding pornography and its differential associations with their satisfaction in romantic relationships, their sexual satisfaction, and their use of active-empathic listening.

CHAPTER III

METHODOLOGY

The sample for the present study consisted of a subset of participants gathered as part of a larger research project. The original sample was obtained through a dual convenience sample and snowballing technique methodology. Five separate universities, located in the Western and Midwestern regions of the United States, comprised the pool from which the initial convenience sample was collected from. Students from the above described universities were invited to participate in the larger research project, to invite their romantic partners to participate in the survey, and to share the survey via social media. Students who participated in the survey and/or who opted to share the survey link were given extra credit, while students enrolled in the same classes who opted not to participate were offered an alternative activity that provided them an equivalent amount of extra credit. All participants, including those who entered the study and were not enrolled in university courses where extra credit was provided, were offered a chance to enter a drawing for a $25 gift card, five of which were available.

Data for the research study detailed above was gathered using the online platform Qualtrics. Individuals who consented to participate in the survey were administered demographic questions, Likert-type questions, and open response qualitative questions. At the end of the survey, those who opted to be entered for the gift card were taken to a separate Qualtrics survey to enter their email addresses, entirely deidentifying answers to the research questions from the individuals who provided the responses.

The present study incorporated a portion of the qualitative analysis conducted by Shuler et al. (2021), the data of which was provided for the current analysis and which also comprised a sub-set of the above described sample. For the purposes of the present study, a selection of participants analyzed by Shuler et al. (2021) were included. Their analysis was conducted with a method informed by the thematic analysis procedure outlined by Braun and Clarke (2012). The participants of the present study comprised of those who provided answers to the qualitative question "In your own words how has pornography influenced your relationship and/or sexual satisfaction" who were coded as reporting beliefs that were positive, negative, or neutral towards pornography use, and who had a member of their couple relationship that had accessed pornography within the last 30 days.

Sample

The final sample consisted of $N = 182$ individual who were in romantic relationships and who had at least one member of their couple system who had used pornography within the last 30 days. Of the sample, 51.6% ($n = 94$) were female, 48.4% ($n = 88$) were male, 39% ($n = 71$) reported being married, 22.5% ($n = 41$) reported cohabiting with their partner, and 38.5% ($n = 70$) reporting being in a dating relationship without cohabiting. Length of time in the relationship ranged from 17.6% ($n = 32$) who reported being in a relationship less than one year to 2.7% ($n = 5$) who reported being in a relationship for more than 25 years with a sample mean of 5.18 years in the current relationship. The majority of the sample (79.1%) identified as White or Caucasian and the mean age of the sample was 24.86 years old.

Measures

Belief Regarding Pornography Use

Participant belief regarding pornography was analyzed as a categorical variable for the present study. The categorical codes that were used in the present analysis to represent participant

belief regarding pornography use were based on three of the overarching emergent themes

reported in the data set analyzed by Shuler et al. (2021). The overarching emergent themes

identified by Shuler et al. (2021) were "beneficial effects of pornography use," "detrimental

effects of pornography use," "neither entirely beneficial or entirely detrimental effects of

pornography use," "mixed effects of pornography use," and "difficult to code." For the present

study, only participants whose responses were sorted into the first three themes, and who met the

inclusion criteria of reporting pornography use within their dyadic relationship, were included for

analysis. For the present study, the group of individuals who reported a belief that pornography

use is beneficial for their relationships were termed the Pro-Pornography Beliefs (PPB) group,

those who reported views that pornography use is detrimental for their relationships were termed

the Anti-Pornography Beliefs (APB) group, and those who reported holding a belief that

pornography use is neither beneficial or detrimental to their relationships were termed the Neutral

Pornography Beliefs (NPB) group.

Couple Satisfaction

Couple satisfaction was measured utilizing the Couple Satisfaction Index-4 (CSI-4; Funk

& Rogge, 2007), a 4-item Likert-type index measure. The CSI-4 was designed to be used as a

brief (4 question) scale that highly correlates with longer measures of relationship satisfaction.

The CSI-4 has been previously found to have a high internal consistency (α = .94; Funk &

Rogge, 2007). The CSI-4 contains questions that either ask the participant to rate the degree of

truth about a statement regarding their relationship – such as "I have a warm and comfortable

relationship with my partner" – on a 6 point Likert-type scale ranging from not at all true (1) to

completely true (6) or asks the participant to rank a dimension of their satisfaction (e.g. happiness

in the relationship, how rewarding the relationship is, how satisfactory the relationship is) using a

similar Likert-type scale. The scoring for the scale is relatively simple, involving a sum of the

scored items with higher scores representing higher levels of couple satisfaction and a score lower than 13.5 suggesting notable relationship distress (Funk & Rogge, 2007).

Sexual Satisfaction

Sexual satisfaction was measured using the contentment subscale of the Sexual Satisfaction Scale for Women (SSS-W; Meston & Trapnell, 2005). The SSS-W was developed to identify the degree of sexual satisfaction in a sample of women, and consists of 5 subscales. For the present study a single subscale, one measuring contentment in sexual satisfaction, was included and was provided to all participants. The contentment subscale of the SSS-W has previously demonstrated a moderately high internal consistency (α = .83). The contentment sub-scale of the SSS-W contains items that ask participants to rate their degree of agreement to six statements about their satisfaction with their sexual relationship ranging from 1, "strongly disagree," to 7, "strongly agree" in a Likert-type format. Participant scores can range from 6 to 42 on the subscale with two of the items being reverse scored and higher scores representing higher levels of sexual satisfaction (Meston & Trapnell, 2005).

Active-Empathic Listening

Active-Empathic listening was measured using the Active-Empathic Listening Scale (AELS; Bodie, 2011). The AELS was originally developed as a measure of empathic listening in a commercial context, but has been modified and found to be significantly corelated to multiple alternative measures of empathic listening in personal relationships. The AELS was found to load adequately on confirmatory factor analysis, and had relatively high ratings of internal consistency on two separate analyses (α = .86 & α = .94; Bodie, 2011). The AELS measure three different facets of empathic listening, sensing what another person feels beyond verbal communication, cognitively and verbally processing another's words, and displaying verbal and nonverbal responsiveness. Scores obtained for each subscale are averaged, with higher averages

representing higher empathic listening, and an overall score for the full AELS scale can also be obtained. The AELS consists of a total of 11 items, instructing participants to rank how frequently they engage in a certain cognitive or relational behavior on a 6-point Likert-type scale ranging from never to very frequently.

Control Variables

Several items from the demographics portion of the survey were included as control variables. Previous studies have suggested possible differences in effects of pornography use based on gender (Maas et al., 2018; Perry, 2017) and Leonhardt et al., (2019) have suggested that pornography use may have differential impacts on short-term versus long term-relationships. Therefore, it was originally proposed that the present study would incorporate gender and length of participant relationship as control variables in the analysis. Participant relationship status (i.e. married, cohabiting, or dating) was also planned to be included as a control variable.

Plan of Analysis

To test for differences between groups of individuals who report differing beliefs regarding the impact of pornography use on their relationships (i.e. report beliefs about pornography use being beneficial, detrimental, or unrelated to the quality of their romantic relationship) and their couple satisfaction, sexual satisfaction, and active empathic listening, a MANCOVA analysis was conducted. Group membership – PPB, APB, and NPB – was utilized as the independent variables while couple satisfaction, sexual satisfaction, and active-empathic listening were analyzed as dependent variables. Additionally, participant gender, relationship status, and length of current relationship were planned to be added as control variables during the first phase of analysis. Results were examined to determine if differences between groups exist on the composite variable created in the analysis of the three dependent variables

After the initial MANCOVA was conducted, the next phase of the analysis consisted of three ANCOVA analyses in which the group differences were again utilized as an independent variable in an analysis to test for group differences between each of the three dependent variables separately. The first ANCOVA was conducted to test for the existence of differences between groups on couple satisfaction, the second was conducted to test for the existence of differences between groups on sexual satisfaction, and the third was conducted to test for the existence of differences between groups on active-empathic listening. In each of these tests, participant gender, relationship status, and relationship length were originally planned to be added as control variables.

The final phase planned for the present analysis hinged on the significance, or lack thereof, detected in the three ANCOVA tests. In the planned analysis, if the ANCOVA tests returned non-significant results, those tests would represent the terminus of the analysis phase of the study and a null hypothesis for each test would be accepted (i.e. it would be accepted that no differences between groups exist on levels of couple satisfaction, sexual satisfaction, and active-empathic listening). Alternatively, it was planned that if significant differences existed between groups on any of the ANCOVA analyses, a third phase of analysis would begin in which follow up *t*-tests would be conducted to examine where and in what direction the difference in associations lay. In the plan of analysis, depending on the significance of findings in the second phase (i.e. the ANCOVA testing phase) of analysis, up to nine separate *t*-tests were planned, one for each possible combination of two group membership variables (as independent variables) on couple satisfaction, sexual satisfaction, and active-empathic listening respectively (as dependent variables). The hypotheses for each phase of the study were as follows.

Phase 1 Hypothesis

Hypothesis 1a, the hypothesis of phase 1 of the present analysis consisting of the MANCOVA test, was that a significant difference would exist between groups on their reports of couple satisfaction, sexual satisfaction, and active-empathic listening.

Phase 2 Hypotheses

The hypotheses of phase 2 of the present analysis, the series of ANCOVA tests, were as follows.

Hypothesis 2a. Significant differences will exist between groups on couple satisfaction.

Hypothesis 2b. Significant differences will exist between groups on sexual satisfaction.

Hypothesis 2c. Significant differences will exist between groups on active-empathic listening.

Phase 3 Hypotheses

The hypotheses of phase 3 of the present analysis were planned to be explored only in the case that one or more of the three hypotheses of phase 2 of the analysis were confirmed. For each of the hypotheses listed below, it was assumed that a null hypothesis would be accepted in its place if the ANCOVA analysis preceding the t-tests utilized to explore the hypotheses was rejected for its relevant variables. In the plan of analysis, if any of the null hypotheses in phase 2 were to be rejected, and the ensuing t-tests conducted, the hypotheses of the relevant t-tests were planned to be as follows.

Hypothesis 3a. The PPB group will have significantly higher scores on couple satisfaction than the APB group.

Hypothesis 3b. The PPB group will have significantly higher scores on couple satisfaction than the NPB group.

Hypothesis 3c. The NPB group will have significantly higher scores on couple satisfaction than the APB group.

Hypothesis 3d. The PPB group will have significantly higher scores on sexual satisfaction than the APB group.

Hypothesis 3e. The PPB group will have significantly higher scores on sexual satisfaction than the NPB group.

Hypothesis 3f. The NPB group will have significantly higher scores on couple satisfaction than the APB group.

Hypothesis 3g. The PPB group will have significantly higher scores on active-empathic listening than the APB group.

Hypothesis 3h. The PPB group will have significantly higher scores on active-empathic listening than the NPB group.

Hypothesis 3i. The NPB group will have significantly higher scores on active-empathic listening than the APB group.

CHAPTER IV

FINDINGS

Preliminary Analyses

Prior to running the analysis for phase 1 of the present study, missing data was examined

in the data set, finding that 10 respondents of the 182 respondent sample left at least one survey

answer blank, representing approximately 5% of the total sample. Further exploration revealed

that missing data for individual variables represented less than 5% of responses for each variable,

suggesting that a series mean substitution method for replacing missing data may be useful

(Rubin et al., 2007). After proceeding with replacing missing data in the dataset with series mean

substitution, a set of tests were run to clarify whether the assumptions underlying the

MANCOVA and ANCOVA tests were met for the present sample. The assumptions tested

included the assumption of the absence of multicollinearity in the dependent variables, normality

of the distribution of dependent variable observations within the three groups of the independent

variable, and homogeneity of variance in distributions of observations within the dependent

variables. Additionally, analyses were conducted to test the hypothesized association between

control variables and dependent variables, as well as to assess for whether the control variables

were independent of any influence from the independent variables on the dependent variables.

Testing for Multicollinearity

To test the assumption of a lack of strong multicollinearity, a Pearson's correlation test

was run for all dependent variables. Couple satisfaction, sexual satisfaction, and active-empathic listening were all significantly correlated with one another ($p \leq .001$). Correlations fell with the medium range for effect sizes (Cohen, 1992), ranging from $r(180) = .24$ for the association between sexual satisfaction and active-empathic listening to $r(180) = .48$ for couple satisfaction and sexual satisfaction. This suggests that for observations in the present sample the assumption of a lack of strong multicollinearity was met.

Testing for Normality of Distributions

To test the assumption of normally distributed observations in the dependent variables, factored by the grouping independent variable, the Kolmogorov–Smirnov (K–S) test was utilized. The null hypothesis – that variations from the normal distribution were not significantly different from zero – was accepted for the PPB group on scores of couple satisfaction, for all groups on scores for active-empathic listening, and for the APB group on scores of sexual satisfaction. For all other dependent variable observations factored by group membership, the assumption of normality was violated, with results ranging from $D(97) = .14$, $p < .01$ for the NPB group on couple satisfaction to $D(39) = .16$, $p = .014$ for the APB group on couple satisfaction. See Table 1 for full K–S test results. While the assumption of normally distributed data was violated for 4 out of the 9 dependent variable group distributions, the F statistic has been demonstrated to be a robust statistic in multiple circumstances, including when the smallest group within the sample represents at least 20% of the full sample (Donaldson, 1968; Glass et al., 1972). The smallest group in the present sample was the APB group ($n = 39$), which represented approximately 21% of the full sample. This suggests that, for the present sample, the F statistic may contain enough robustness to effectively manage the lack of normality in portions of the present dataset.

Testing for Homogeneity of Variance

To test for the assumption of homogeneity of variance between groups on the dependent variables, Levene's test was conducted on the dependent variables, factored by the grouping independent variable. Variance between groups were equal for each of the groups across the three dependent variables ($F(2, 179) = 2.14$, $p > .05$ for couple satisfaction, $F(2, 179) = .96$, $p > .05$ for sexual satisfaction, and $F(2, 179) = 1.43$, $p > .05$ for active empathic listening. Based on these findings, it was concluded that homogeneity of variance was present between the three groups on the dependent variables.

Analyzing Control Variable Associations

It was hypothesized that participant gender, relationship status (i.e. dating, cohabiting, or married), and length of time in the present relationship would be related to a portion of any variations in the dependent variables and that group membership (the independent variable) would be unrelated to variance in the proposed control variables. To test this, a series of analyses were conducted on the relationship between group membership and gender, relationships status, and length of time in the relationship, and the three proposed covariates with the dependent variables.

Relationship Between Independent Variables and Proposed Control Variables. To test the relationship between participant group and participant gender, a chi-square test was conducted. The relationship between participant group and participant gender was non-significant, $X^2 (2, N = 182) = .89$, $p = .64$, indicating that adding it as a covariate in the MANCOVA and ANCOVA analyses may be appropriate. Participant group membership and relationship status was likewise analyzed using a chi-square test, resulting in a non-significant finding, $X^2 (4, N = 8.917) = .89$, $p = .06$, meeting the assumption of independence of this control variable from the independent variable. Finally, an analysis of variance (ANOVA) was conducted to test the association between group membership and length of time in the participant's present

relationship. No significant relationship was identified, $F(2, 179) = .32, p > .05$, suggesting that the assumption of independence of this control variable and the independent variable was met.

Relationship Between Proposed Control Variables and Dependent Variables. To test the assumption that control variables were indeed related to the study dependent variables, another set of analyses were conducted for each of the proposed covariates and the dependent variables. To test the association between participant gender and couple satisfaction, sexual satisfaction, and active-empathic, three intendent sample, two-tailed t-tests were conducted. For couple satisfaction, no significant difference was detected for participant gender, $t(180) = .66, p = .51$, or for sexual satisfaction and participant gender, $t(180) = .07, p = .95$. However, a significant difference was detected between men and women on active-empathic listening, $t(156.202) = 2.5, p = .013$ (equal variance for this t-test was not assumed, based on a significant finding of a Levene's test for equality of variance $F(1, 180) = 11.127, p < .05$).

To test the assumption that participant relationship status was related to the dependent variables, three ANOVA tests were conducted. No significant relationship was detected for participant relationship status and couple satisfaction or active-empathic listening ($F(2, 179) = 1.43, p > .05$ and $F(2, 179) = 2.59, p > .05$ respectively), but a significant association was identified for participant relationship status and sexual satisfaction, $F(2, 179) = 5.95, p < .05$. To test the final assumption of covariance of proposed control variables and dependent variables, a Pearson correlation analysis was conducted for participant length of time in relationship and the dependent variables. No significant associations were detected for couple satisfaction ($r(180) = -.06, p = .37$), sexual satisfaction ($r(180) = -.09, p = .24$), or active-empathic listening ($r(180) = -.07, p = .32$).

The assumption of independence of independent variables and originally proposed control variables was met, however the assumption of association between covariates and

dependent variables were not met for length of current participant relationship. As the

assumptions of covariance between the other two originally proposed control variables were

partially met, it was determined that participant gender and relationship status would be included

in further analysis including the primary MANCOVA and ANCOVA tests of the present study.

Length of participant current relationship, however, would be dropped from future analyses,

based on the violation of the assumption of its covariance with the study dependent variables.

Testing for Homogeneity of Regression Slopes

The final assumption tested prior to the primary analyses of the present study was the test

for the assumption of homogeneity of regression slopes of the dependent and covariate variables

between the PPB group, APB group, and NPB group. The analyses for homogeneity of regression

slopes resulted in the following findings; $F(2) = 1.93$, $p > .05$ and $F(2) = .33$, $p > .05$ for couple

satisfaction multiplied by participant sex and couple satisfaction multiplied by relationship status

respectively, $F(2) = .4$, $p > .05$ and $F(2) = .93$, $p > .05$ for sexual satisfaction multiplied by

participant sex and sexual satisfaction multiplied by relationship status respectively, and $F(2) =$

1.15, $p > .05$ and $F(2) = 1.36$, $p > .05$ for active-empathic listening multiplied by participant sex

and active-empathic listening multiplied by relationship status respectively. As all results were

non-significant, it was accepted that the null hypothesis – that there was no significant difference

in regression slopes for the dependent variables within the three groups while accounting for the

covariates – held for this sample.

Phase 1 Analysis

To test hypothesis 1a, that there will be a significant difference between groups of

individuals with different beliefs regarding pornography use on their couple satisfaction, sexual

satisfaction, and active-empathic listening as a composite variable, a MANCOVA test was run.

Participant group (PPB, APB, and NPB) was entered as an independent variable, couple

satisfaction, sexual satisfaction, and active-empathic listening were loaded as a dependent

variable, and participant gender and relationship status were entered as covariates. Using Pillai's

trace, there was no significance detected for either covariate or the independent variable after

controlling for the covariates, $F(6, 352) = 1.13$, $p > .05$ (see Table 2 for results of covariate

influence on dependent variables). Based on these results, hypothesis 1a was rejected, and the

study shifted to phase 2 of the analysis.

Phase 2 Analyses

To test hypotheses 2a through 2c, three ANCOVA analyses were conducted, testing the

association between participant group and each of the three dependent variables (i.e. couple

satisfaction, sexual satisfaction, and active-empathic listening) respectively and entering

participant sex and relationship status as covariates in each case. For couple satisfaction, the

ANCOVA test resulted in non-significant results, $F(2, 177) = 1.02$, $p > .05$, leading to the

rejection of hypothesis 2a. Likewise, no significant difference was detected between groups for

sexual satisfaction, ($F(2, 177) = 2.22$, $p > .05$, or for active-empathic listening $F(2, 177) = 1.48$, p

$> .05$. While significant effects were identified for the covariate relationship status on sexual

satisfaction, $F(1, 177) = 4.34$, $p < .05$, and for the covariate gender on active-empathic listening

$F(1, 177) = 5.56$, $p < .05$, the lack of significance of the association between the independent

variable and the dependent variable after controlling for the covariates led to hypotheses 2b and

2c likewise being rejected (see Table 3). Based on the plan of analysis, these rejections of the

hypotheses represents the terminus of the analysis phase of the study, considering that any

rejections of the null hypothesis based on significant results of any subsequent t-tests would have

an increased likelihood of representing Type I errors.

Post-hoc Analysis

Series mean substitution introduces the possibility of bias into the present data set by reducing the overall variability in tested participant responses. While the overall data substituted with mean values was small (less than 5% of each variable with missing data), some of the data missing appeared to be missing not completely at random. Specifically, six respondents left the questions from the SSS-W scale blank, while the rest of the responses containing missing data were scattered across the dataset with single item response gaps. To clarify the possible influence of bias on the dataset, a post-hoc analysis was conducted to test the results of the analysis against an analysis conducted using a listwise deletion method. The listwise deletion method also contains the possibility of biasing the dataset (Rubin et al., 2007) by removing respondents from the analysis, and in this case may have removed something unique contributed especially by individuals who chose not to respond to questions on sexual satisfaction. As such, the listwise deletion method was used primarily as a point of comparison to the mean substitution method to clarify how bias may have impacted findings rather than as a primary form of analysis to test hypotheses. The analyses run using the listwise deletion method for missing data mimicked the results reported above for both the MANCOVA and ANCOVA tests, implying that for the present sample, the series mean substitution method did not dilute power in a manner that listwise deletion would have corrected, and increasing the confidence that the acceptance of the null hypotheses of the ANCOVA analyses does not represent Type II errors.

CHAPTER V

CONCLUSION

The associations between pornography use and factors related to relationship wellbeing are complex, and sometimes appear to be contradictory (e.g. Leonhardt & Willoughby, 2019 compared to Perry et al., 2017). The present study was conducted to add to the literature on the ways in which pornography use interacts with relationship wellbeing factors, particularly by examining couple satisfaction, sexual satisfaction, and active-empathic listening as they vary among individuals who experience pornography use within the context of their romantic relationships and who hold varying beliefs about the effect of pornography use on relationships. Symbolic interaction (Blumer, 1969; LaRossa & Reitzes 1993) was utilized as an underpinning theory to the analysis, as previous research has suggested individuals hold varying beliefs about pornography (Shuler et al., 2021) and that in some circumstances an individual's beliefs about pornography use may be related to their relationship experience (Maas et al., 2018).

The hypotheses of the present study were not supported. Specifically, it was found that no significant difference existed between groups of individuals with varying beliefs about pornography use on a composite variable of couple satisfaction, sexual satisfaction, and active-empathic listening. Furthermore, when examining the differences between groups of individuals with varying beliefs about pornography use and each dependent variable, it was found that no statistically significant relationship existed between group membership and outcome variables

after controlling for the covariates of gender and relationship status. While group membership and the outcome variables were unrelated, in the case of sexual satisfaction the covariate relationship status was significantly related to variations in participant sexual satisfaction. For active-empathic listening, the control variable gender was related to the variance identified in that skill.

These findings fit into the broader literature on pornography use and romantic relationships in a unique way. In some of the previous literature on the relationship between the meaning that pornography use holds for individuals and relationship outcomes, it has been found that the meaning pornography use holds for an individual fails to explain variations in individuals on their experience with pornography. For example, Poulsen et al., (2013) found that believing pornography use was degrading or enhancing did not mediate the relationship between pornography use and relationship factors. The present findings support the lack of ability for belief about pornography use, particularly as it was captured and represented in the present analysis, to explain variance in relationship outcomes. This is in contrast to the findings of Maas et al., (2018) who found that men who believe pornography use is beneficial experience greater sexual satisfaction.

The lack of significance in the findings of the present study related to belief and pornography use is telling. In the present sample, believing that pornography use is damaging to one's relationship was not related to any difference in couple satisfaction, sexual satisfaction, or active-empathic listening compared to those who believe it benefits their relationships. This implies that belief alone is not sufficient to explain why some individual who utilize pornography report experiencing it as beneficial while others who utilize it report experiencing it as detrimental. In that sense, the present findings perhaps fit best within the research that identifies that many individuals do not identify pornography use as impactful on their relationship (Kohut et

al., 2017; Shuler et al., 2021) which is reflective of the opinion of the majority of respondents in the present sample.

The relationship between the covariates of gender and the dependent variables of the present analysis fit within the broader research on pornography use. Gender has been found to be a meaningful variable in understanding the relationship between pornography use and couple outcomes in multiple samples (Muusses et al., 2015). Relationship status has been analyzed as a factor in predicting awareness of pornography use, acceptance of pornography use, and frequency of pornography use previously (Carroll et al., 2017), though it has less often been examined as a covariate in analyzing group differences and their relationship outcomes among individuals who use pornography. The results of the present sample suggest that continuing to use relationship status and gender as control variables may be useful for future research. Finally, relationship length was unrelated to relational outcome variables of the present study, in contrast to the hypothesized changing role of pornography use as relationships progress proposed by Leonhardt et al., (2019). The sample of the present analysis was, however, skewed towards young adulthood and relationships within the first 7 years of formation, therefore it could be that too little variability in length of relationship existed in the present sample to detect any effect of length of relationship if it exists.

Limitations and Future Directions

It is important to acknowledge a number of limitations to the present study that should be considered when interpreting the results and considering its implications. The first limitation is in generalizability. The sample is fairly homogenous, with a large majority, nearly 80%, being white and a large portion of the sample skewed to early adulthood. No information on sexual orientation was collected from the present sample, and gender was gathered as a binary variable which does not allow for gathering fully accurate data regarding the gender of participants of the sample. In

terms of design, as this study is cross-sectional, no causal relationships can be inferred from the results of the covariate associations with couple outcomes. Furthermore, the distributions of observations in the dependent variables were not normal, and while the *F* statistic tends to be robust in many circumstances (Reid & Kafka, 2014), the lack of normality may bias the data and so should be considered when interpreting the results, and non-parametric tests should be considered for future analyses encountering the same violations of normality.

A final limitation of the data, and a point which could inform future research, is that there are no questions about the specific frequency, type, or modality (individual or joint use) of pornography use. Because of this no inferences can be made about how these factors may influence the relationship between pornography use and relationship outcomes. Any such moderating factors, or potential mediating variables, cannot be ascertained from the present variables, and as type of pornography (Fritz & Paul, 2017), frequency of use (Perry et al., 2017), and individual versus partnered use (Willoughby & Leonhardt, 2018) have all been found to be related to how one experiences pornography use they are important factors to consider in future research. Future research would also be benefited by including longitudinal study designs, as much of the research conducted on pornography use has been cross-sectional (Newstrom & Harris, 2016). Furthermore, it is important to note that the present findings do not imply that participants had non-meaningful variety in the couple satisfaction, sexual satisfaction, or their empathic listening, or that pornography use is not related to these outcomes. In fact, results from the preliminary correlational analysis suggest that meaningful differences do exist within these participants on these variables. What the findings imply is that belief regarding pornography use is not a useful sorter in differentiating between individuals on their experiences of couple satisfaction, sexual satisfaction, and active-empathic listening.

Conclusion

Overall, the findings of the present analysis reflect the complex and sometimes contradictory state of the overall field of research on pornography use and romantic relationships (Newstrom & Harris, 2016), while standing against evidence that belief regarding pornography use is related to a person's experience with pornography use, or that believing pornography use is beneficial for individuals who utilize it is related to increased or decreased couple satisfaction, sexual satisfaction, or active-empathic listening. This, in turn, calls into question the utility of utilizing symbolic interaction theory (Blumer, 1969; LaRossa & Reitzes 1993) in future research on the relationship between pornography use and relationship outcomes. While it could be that a person's symbolic meaning attached to their use of pornography may impact their experience with it, their belief alone does not appear to distinguish them among others with differing beliefs on other facets of their couple relationship.

A unique contribution of the present study is that it utilizes a distinctive design in answering questions regarding the associations between belief, pornography use, and relationship outcomes. It utilizes a coding system that was originated in a qualitative analysis that gave participants the freedom to express their views regarding pornography as opposed to overlaying a prescribed set of beliefs for the participants to choose from. Furthermore, the primary variable of interest in the questions asked in the present study relate to an individuals' belief about pornography use, rather than regarding pornography use directly. This data does not provide support for or contradict findings about the *use* of pornography and relationship outcomes *per se*; it elucidates a lack of differences between individuals who experience pornography use within the context of their relationship and who also have varying beliefs about pornography use.

This study leaves important questions to be explored in future research. If belief regarding pornography use does not distinguish individuals on their experience of couple satisfaction, sexual satisfaction, and active-empathic listening, what factors are related to the variations observed in previous research among individuals who utilize pornography? If there are

ways in which the symbolic meaning of pornography use for an individual is related to their

experience with it, where are these variations observable? Future research can benefit from the

answers identified in the present analysis by refining what factors are examined in the

relationship between pornography use and couple relationship outcomes.

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APPENDICES

Table 1

Kolmogorov–Smirnov Test of Normality

Grouping Variable	D Statistic	Degrees of Freedom
Couple Satisfaction		
PPB	.13	46
APB	.16*	39
NPB	.14**	97
Sexual Satisfaction		
PPB	.16**	46
APB	.12	39
NPB	.12**	97
Active-Empathic Listening		
PPB	.07	46
APB	.13	39
NPB	.07	97

*$p < .05$

**$p < .01$

Table 2

Results of Multivariate Analysis of Covariance Using Pillai's Trace

Effect Variable	*F* Statistic	Hypothesis *df*	Error *df*
Gender	1.96	3	175
Relationship Status	1.75	3	175
Group Membership	1.13	6	352

Note: No significant relationships were detected

Table 3

Results of The Analyses of Covariance

Effect Variable	*df* model effect	*df* residuals	*F*-ratio
Couple Satisfaction			
Gender	1	177	.33
Relationship Status	1	177	1.67
Group Membership	2	177	1.02
Sexual Satisfaction			
Gender	1	177	.01
Relationship Status	1	177	4.34*
Group Membership	2	177	2.22
Active-empathic Listening			
Gender	1	177	5.56*
Relationship Status	1	177	2.01
Group Membership	2	177	1.48

*$p < .05$

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