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Self-Perceived Effects of Pornography Consumption Among Heterosexual Men

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SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Abstract

Pornography has been identified as playing an increasingly important role in the sexual socialization of men. However, relatively little attention has been paid to men's perceptions of their own pornography consumption. This study investigated self-perceived effects of pornography consumption among an online sample of heterosexual men ($N = 312$). The study employed a short form version of the Pornography Consumption Effects Scale (PCES-SF). The PCES-SF measures both self-perceived positive and negative effects of pornography consumption across the domains of sex life, attitudes toward sex, life in general, perceptions and attitudes toward the opposite gender, and sexual knowledge. Level of pornography use (measured in terms of frequency of use and average length of use) was positively predictive of both self-perceived positive and negative effects of pornography consumption. Those who indicated that they had never been regular users of pornography reported more negative effects than regular users. Older participants reported fewer negative effects than younger participants, even after controlling for level of pornography use. However, the relationship between age and perceived positive effects was non-significant. Religiosity was positively predictive of perceived negative effects, but unrelated to actual level of use. Overall, the sample perceived pornography to have a significantly greater positive than negative effect on their lives. This research is part of a growing body of literature which suggests that most men consider pornography to have a positive impact on their sexual self-schema and lives more generally.

Keywords: Pornography; Sexual Explicit Media; Heterosexual Men; Self-Perceived Effects

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Introduction

Two of the most consistent findings within the pornography research literature are the observations that men consume pornography more frequently than women and that consumption of pornography among men is commonplace (see Hald, Seaman, & Linz, 2014). As a result, pornography is seen as playing an increasingly important role in the sex lives and sexual socialization of men (see Wright & Bae, 2016). Pornography consumption has been found to influence men's sexuality across a range of domains, including body image dissatisfaction (Tylka, 2015), permissiveness toward casual sex (Brown & L'Engle, 2009; Peter & Valkenburg, 2010), engagement in condomless sex (Wright, Tokunaga, & Kraus, 2016b), preferences regarding the sexual practices depicted in pornography (Morgan, 2011), sexual aggression (Wright, Tokunaga, & Kraus, 2016a), and sexual objectification of women (Mikorski & Syzmanski, 2016).

Brooks (1995) uses the term the "centerfold syndrome" to describe the way in which objectifying media portrayals of females (such as pornography) socialize men to endorse certain beliefs about masculinity and thereby influence men's sexual self-schemas (see also Elder, Brooks, & Morrow, 2012). For example, believing that masculinity is confirmed through sexual conquest, that it is natural for men to reduce women to sexual objects, or that recreational, non-relational sex is desirable. Brooks maintains that this distorted view of masculinity then adversely affects men's sex lives and relationships. Although the centerfold syndrome stems from Brooks's clinical and qualitative work, Wright (2012) provides an overview of empirical studies in support of the centerfold syndrome (see also Wright & Tokunaga, 2015).

The deleterious impact of pornography on men's sexual self-schemas and subsequent behavior has received considerable academic attention, which Attwood (2011) describes as the "effects tradition" in pornography research. However, relatively little attention has been

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

paid to studying the effects of pornography consumption from the perspective of pornography consumers themselves (Attwood, 2011), that is to say, the self-perceived effects of pornography consumption.

Hald and Malamuth (2008) were the first to employ a multifaceted measure of self-perceived effects of pornography use, the Pornography Consumption Effects Scale (PCES). Using a representative sample of 688 Danish young adults, the authors found that consumers perceived pornography to have had a significantly greater positive than negative effect across all the domains of the PCES (sexual knowledge, perceptions and attitudes toward the opposite gender, attitudes toward sex, sex life, and life in general). These findings were partially collaborated by Mulya and Hald (2014) with a sample of 249 Indonesian university students. Consistent with Hald and Malamuth (2008), male participants perceived their pornography consumption to have had a greater positive than negative effect on their sex lives and perceptions and attitudes toward women. However, in contrast to Hald and Malamuth (2008), the men sampled reported that pornography had had a greater negative than positive effect on their attitudes toward sex (Mulya & Hald, 2014). Using a large representative sample of Australian adults, Rissel et al. (2017) found that over 80% of their sample reported that their consumption of pornography had not had a “bad effect on them” (p. 229). In a different study of Australian pornography users 58% of participants reported that pornography had had a positive effect on their attitudes toward sexuality (McKee, 2007). Only 7% of this sample reported that pornography had negatively influenced their attitudes toward sexuality. Kvalem, Træen, Lewin, and Štulhofer (2014) measured self-perceived effects of pornography among a sample of Norwegian and Swedish adults and found that participants generally also reported pornography to have an overall positive effect on their lives.

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Self-perceived effects of pornography have also been studied among non-exclusively heterosexual men. Using samples of US and Norwegian men who have sex with men (MSM) it was found that over 90% of the men sampled (97% and 93% respectively) felt that pornography had had a positive effect on their enjoyment of sex, sexual knowledge, attitudes toward sex and sexual orientation (Hald, Smolenski & Rosser, 2013; Hald et al., 2015). These results are supported by a recent qualitative study into pornography use among 35 young men with non-exclusive sexual orientations (McCormack & Wignall, 2016). Here participants described pornography's impact on their lives in largely positive terms, describing viewing pornography as a form of leisure activity and as an effective method for exploring sexual identity. Consequently, the authors argue that researchers need to move beyond the "negative effects paradigm" (p. 3) and also consider potential positive effects of pornography if they wish to have a full understanding of the impact of pornography on men's sexual self-schemas.

The studies outlined above have identified a number of pornography related variables that are predictive of self-perceived effects of pornography consumption, including level of pornography use (Hald & Malamuth, 2008; Hald et al., 2013; Hald et al., 2015; Mulya & Hald, 2014), perceived realism of pornography (Hald & Malamuth, 2008; Mulya & Hald, 2014), and age at first use of pornography (Hald et al., 2015). A number of demographic variables have also been identified as being predictive of self-perceived effect of pornography consumption, including religion and age (Rissel et al., 2017), and ethnicity and education (Hald et al., 2013).

As can be seen from the above literature review, only five studies have quantitatively assessed self-perceived effects of pornography consumption among self-reported heterosexual men. One of these studies was conducted in Indonesia, a religious, sexually conservative nation in which pornography is illegal (Mulya & Hald, 2014). Two were

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

conducted using samples of Scandinavians. Denmark, Sweden and Norway are all sexually liberal nations with a relaxed attitude toward pornography (Denmark was in fact the first nation to legalise the sale of pornography; Hald, 2006). In the two remaining studies single-item measures of self-perceived effects of pornography were employed: “What effects has pornography had on your attitudes towards sexuality?” (McKee, 2007, p. 90) and “You feel using porn has a bad effect on you” (Rissel et al., 2017, p. 229).

The present study seeks to remedy these limitations by assessing self-perceived effects of pornography consumption among a sample of self-reported heterosexual men from a range of nations—primarily Australia, the US and Singapore (all of which would be expected to fall between Indonesia and Scandinavia in terms of acceptance of pornography)—using a validated, multi-item form of the PCES (REFERENCE BLINDED FOR REVIEW). Further, this study seeks to assess the degree to which pornography related variables (regular pornography consumption, level of pornography consumption, age at first use of pornography, and, if applicable, age at start of regular use) and a range of demographic variables (age, education, country of residence, relationship status, and religiosity) are predictive of both positive and negative self-perceived effects of pornography consumption. This is the first time that the predictive power of many of these variables has been assessed in terms of both positive and negative effects of pornography use (rather than pornography’s overall “net effect”) among a sample of heterosexual men.

The following hypothesis and research questions were tested as part of the present study:

Hypothesis 1: Consistent with previous research, the sample will report pornography to have a greater overall positive than negative effect on their lives.

Research Question 1: Which demographic and pornography use variables are predictive of self-perceived positive effects of pornography?

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Research Question 2: Which demographic and pornography use variables are predictive of self-perceived negative effects of pornography?

Method

Participants

The final sample consisted of 312 self-identified heterosexual men, who had had previous experience with pornography. Participants' ages ranged from 18 to 73 years ($M = 27.80$, $SD = 10.71$). The sample comprised community members (58.7%) and students participating for course credit (41.3%). The majority of the sample originated from three countries: Australia (41.7%), the US (26.9%) and Singapore (17.6%), with the rest coming primarily from Canada, the UK, and other European nations. Demographic characteristics of the sample are presented in Table 1.

Measures

Demographics. The demographic variables assessed in the survey included age (in years), country of residence, highest level of formal education (no university study; some undergraduate study; undergraduate degree; some postgraduate study or postgraduate degree), relationship status (in a relationship and cohabiting; in a relationship but not cohabiting; not in a relationship) and sexual orientation (heterosexual; gay; bisexual; other). Religiosity was measured with a single Likert-type item, "I am religious," with response options ranging from 1 = *extremely inaccurate* to 9 = *extremely accurate*.

Pornography use. The prevalence of pornography consumption was assessed with three yes or no items: "Have you ever watched pornography?," "Have you watched pornography in the last six months?," and "At any point have you been a regular viewer of pornography?" Regular viewing was defined for participants as "Viewing pornography at least once per month, over a six-month period."

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Frequency of pornography use over the last six months was measured with a Likert-type item ranging from 1 = *less than monthly* to 8 = *more than once a day*. Average pornography viewing session length was assessed via a Likert-type item anchored by 1 = *less than 5 minutes* and 6 = *greater than 60 minutes*. An index of level of pornography consumption over the last six months was created by *z*-standardizing and then averaging these two items. Participants were also asked about the age at which they first viewed pornography (including accidental exposure) and the age at which they first started to regularly view pornography.

Self-perceived effects of pornography consumption. A validated short form version of Hald and Malamuth's (2008) PCES (PCES-SF; REFERENCE BLINDED FOR REVIEW) was used to measure the self-perceived effects of pornography consumption. The PCES-SF consists of 14 Likert-type items (see Appendix for items). All items use a seven point scale (1 = *not at all*, 2 = *to a very small extent*, 3 = *to a small extent*, 4 = *to a moderate extent*, 5 = *to a large extent*, 6 = *to a very large extent*, and 7 = *to an extremely large extent*).

Items are arranged along a positive effect dimension (PED) and a negative effect dimension (NED). Like the PCES, the PCES-SF measures self-perceived effects of pornography use across the content domains of sex life (two positive and two negative items), attitudes toward sex (two positive and two negative items), life in general (one positive and one negative item), perceptions and attitudes toward the opposite gender (one positive and one negative item), and sexual knowledge (two positive items). In the current study, both the PED and NED had Cronbach alpha coefficients of .91. Spearman-Brown coefficients for the two item subscales ranged from .79 to .86 (for two-item scales, the Spearman-Brown coefficient may be a more appropriate measure of reliability than Cronbach's alpha; Eisinga, Grotenhuis, & Pelzer, 2013).

Procedure

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Data for this study were taken from a larger online survey into the effects of pornography use. Participation in the study was limited to adult males. For the purposes of this paper, the final sample was limited to those who self-identified as heterosexual and had previously viewed pornography (as PCES-SF items would not be applicable to those who had never viewed pornography).¹ Students from (BLINDED FOR REVIEW) were recruited in exchange for course credit. Other participants were offered the chance to go into a prize-draw (for a \$50 gift voucher) in exchange for their participation. As an incentive was offered, data were checked for duplicate responses. Community participants were recruited through websites which host psychological studies (e.g., callforparticipants.com, lehmiller.com, socialpsychology.org, facebook.com/psychologyparticipantsresearchers). Participation in the study was anonymous and took approximately 30 minutes. Ethical approval to conduct the study was obtained from the Human Research Ethics Committee of [name of institution withheld for blind review].

Results

Pornography Consumption Among Sample

Nearly the entire sample (94.2 %) had viewed pornography in the last six months. Additionally, 82.4% indicated that they currently were regular users of pornography, or had been at some point. Median response for frequency of use over the last six months was 3–4 times per week. Median response for average session length was 15–30 minutes. Average age at first use was 12.91 years ($SD = 2.80$), and average age at start of regular use was 16.69 years ($SD = 3.99$).

Hypothesis 1

¹ 322 self-identified heterosexual men completed the survey. Ten (3.1%) participants were excluded on the basis of never having viewed pornography, leaving a final N of 312. An “ever viewed pornography” prevalence rate of greater than 90% for men is consistent with past research (e.g., Kvalem et al., 2014; Morgan, 2011; Sun, Miezan, Lee, & Shim, 2014; Træen & Daneback, 2013).

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

The sample had a mean positive effect dimension (PED) score of 3.19 ($SD = 1.42$), indicating a small to moderate positive effect based on scale response options, and a mean negative effect dimension (NED) score of 1.83 ($SD = 1.33$), indicating no negative effect to a very small negative effect. A paired samples t test was used to compare PED scores to NED scores. A significant and large difference was detected, $t(311) = 14.23$, $p < .001$, Cohens's $d = 0.99$, indicating that participants perceived that pornography consumption had a significantly greater positive than negative effect on their lives. This finding was consistent across all of the domains measured by the PCES-SF (see Table 2). Hypothesis 1 was therefore supported.

Research Questions 1 and 2

To investigate Research Questions 1 and 2, correlation analyses were performed on continuous study variables (i.e., PED, NED, age, age at first use of pornography, age at start of regular use of pornography, level of pornography use, and religiosity). Furthermore, PED and NED scores were also compared for categorical study variables (i.e., country of residence, relationship status, highest level of formal education, and whether the individual had ever been a regular user of pornography) using ANOVAs and independent samples t tests.

Correlation coefficients are presented in Table 3. As can be seen, a significant positive relationship was detected between PED and NED. PED was also positively associated with pornography use, but negatively related to age at first use of pornography. NED had a positive association with religiosity and a negative association with age.

Table 4 reports the results of the tests comparing NED and PED by categorical study variables. No significant differences in PED scores were detected for any of the categorical variables assessed. Those who indicated that they had never been regular viewers of pornography reported significantly greater NED scores than those who had. Furthermore, the omnibus F test comparing NED scores by relationship groups (in relationship, cohabiting; in

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

relationship, not cohabiting; and not in relationship) was also significant. However, Bonferroni corrected pairwise comparisons did not reveal any significant differences between relationship groups. It should be noted that the effect size associated with the omnibus test here was small.

Multiple regression analysis was then conducted to assess whether the three variables that significantly correlated with PED in the initial analysis (NED, age at first use of pornography, and level of pornography use) would continue to have a significant association with PED after taking into account these predictors' shared variance. In order to do this, the three predictor variables were simultaneously entered into the regression model. Level of pornography use was the only predictor that was found to make a statistically significant, unique contribution to the model. In total the model accounted for 10% of the variance in self-perceived positive effects ($R = .32$, adjusted $R^2 = .09$, $p < .001$). Regression weights are reported in Table 5.

Following the same logic underpinning the above multiple regression analysis, PED, age, religiosity, and regular pornography use were entered into a regression model predicting NED. Level of pornography use (which was not found to significantly correlate with NED in the correlational analyses) was also entered into the model as it was thought that the positive relationship between PED and NED observed in the correlational analyses may be the result of shared variance between PED, NED and level of pornography use. As in the previous regression analysis, the five predictors were entered into the model simultaneously. Age, religiosity, regular pornography use, and level of pornography use were all found to make a statistically significant unique contribution to the model. PED was not statistically significant in the model. In total the model accounted for 21% of the variance in the self-perceived negative effects of pornography use ($R = .46$, adjusted $R^2 = .19$, $p < .001$; see Table 5).

Discussion

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

As expected (see Hypothesis 1), the sample reported that pornography had had a greater positive than negative impact on their lives. This finding is consistent with existing research into self-perceived effects of pornography use among heterosexual men (Hald & Malamuth, 2008; Kvaalem et al., 2014; Mulya & Hald, 2014; Rissel et al., 2017) and MSM (Hald et al., 2013; Hald et al., 2015). Conceivably, this finding could be explained by cognitive dissonance theory (Festinger, 1957), whereby participants may underreport negative effects of their pornography consumption in an attempt to reduce dissonance between their beliefs (e.g., believing that pornography consumption adversely impacts one's life) and behaviors (e.g., frequently using pornography). Nonetheless, it is also possible—and perhaps even likely given the cross-study consistency of this finding—that participants' reports are accurate and that most men really do believe that pornography has a greater positive than negative impact on the lives.

Past qualitative research can provide clues as to the ways in which pornography may positively influence men's sexual self-schemas. As discussed above, in the in-depth interviews conducted by McCormack and Wignall (2016) participants frequently described the consumption of pornography as a pleasurable recreational activity and an important source of knowledge about sexual desires and identity (although it should be acknowledged that unlike the current study, McCormack and Wignall targeted young men with non-exclusive sexual orientations). McKee (2007) included open-ended questions assessing the self-perceived effect of pornography in his survey of Australian pornography consumers. In this study participants frequently reported that pornography made them feel less repressed, more open-minded, and more tolerant about sex. Participants also frequently reported that they found pornography to be pleasurable and educational. In support of this, in the current study the highest mean subscale scores were observed for Sexual Knowledge (Positive), Sex Life (Positive), and Attitudes Toward Sex (Positive).

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

It should be noted that the findings of the study, and other similar studies, regarding the self-perceived positive effect of pornography do not necessarily invalidate any of the existing research into pornography's impact on men's sexual self-schemas and behaviors. For example, it may be that pornography impacts men's desire to engage in recreational sex or assert their masculinity through sexual conquest in a way consistent with Brooks's (1995) centerfold syndrome. It may just be the case that most men do not find such desires negative or upsetting (even if such desires still have a negative impact on the lives of women), or if they do, this negative effect is outweighed by pornography's positive effect on their sex lives. Indeed, mean NED subscale scores all fell close to two ("a very small negative effect") indicating that many men still perceive pornography to have some negative effect on them.

It is noteworthy that participants did not report more negative effects in regard to pornography's impact on their sex lives given a recent meta-analysis of studies assessing the association between pornography consumption and sexual and relationship satisfaction (Wright, Tokunaga, Kraus, & Klann, 2017). This meta-analysis found small but significant overall negative associations between pornography consumption and both sexual and relationship satisfaction. Kohut, Fisher, and Campbell (2017) have however heavily criticized much of the empirical literature used in this meta-analysis for its harm-focused orientation and assumption of direction of causality (see also Campbell & Kohut, 2017). Accordingly, these authors conducted their own qualitative investigation into pornography's impact on men and women's relationships. They found that participants reported positive effects much more frequently than negative effects. Interestingly, the most commonly reported negative effect was that pornography created unrealistic expectations of sex, in relation to what is expected of both females (e.g., willingness to engage in, and enjoyment of, certain sexual practices) and males (e.g., muscularity, penis size, erection quality, sexual stamina). This and related research (e.g., Tylka, 2016) suggests that pornography can impact men's (or at least

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

some men's) masculine ideals and sexual relationship expectations, creating an incongruence between what is expected of sexual relationships and what actually occurs within these relationships. For some men, this may adversely impact relationship satisfaction.

The hierarchical confluence model (HCM) of sexual aggression posits that the effect of pornography on sexual aggression is stronger among those who are already high on risk factors for sexual aggression (e.g., hostile masculinity, narcissism) and less pronounced, or non-existent, among those who are low on such risk factors (see Hald et al., 2014; Kingston, Malamuth, Fedoroff, & Marshall, 2009). Empirical evidence supports the HCM in relation to pornography's impact on sexual aggression (Hald & Malamuth, 2015; Malamuth, Hald, & Koss, 2013). Furthermore, the HCM has been successfully extended in regard to pornography's impact on sexism more generally (Hald, Malamuth, & Lange, 2013). The basic premise of the HCM could be further extended to understand pornography's effect on men's relational and sexual self-schemas. That is to say, pornography may have a more pronounced effect on the masculine ideals (and by extension relationship satisfaction) of men who are already at risk for having unrealistic expectations of sexual relationships (e.g., teenagers with little real-world sexual experience). Interestingly, and in line with this theory, in the current study older participants reported fewer self-perceived negative effects than younger participants, even after controlling for level of pornography use (this finding is mirrored in Rissel et al., 2016). By virtue of having more real-world experience with sexual relationships, older men may be better able to recognize that pornography does not provide an accurate picture of sexual relationships. Thus, pornography may be less likely to have a direct influence on older men's masculine ideals and by extension less likely to negatively impact the lives of older men.

Consistent with the idea that pornography can simultaneously negatively and positively impacts men's lives, the results of the regression analysis indicated that increased

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

pornography use was associated with more overall positive effects *and* more overall negative effects. These findings underpin the importance of researchers considering both pornography's positive and negative impact and highlight the need for scales which enable the simultaneous measurement of positive and negative effects, in contrast to the single-item, net-effect measures employed by some past studies (e.g., McKee, 2007; Rissel et al. 2016).

Interestingly, having never been a regular user of pornography was also associated with more perceived negative effects. This finding seems somewhat at odds with the observed positive relationship between level of pornography use and perceived negative effects. However, it may simply reflect the possibility that there is a segment of the population who feel that pornography adversely impacts them and thus not use it frequently.

PED and NED scores were not found to differ by country. Furthermore, the results of the current study largely mirror those of previous studies conducted in sexually liberal Scandinavian (Hald & Malamuth, 2008; Kvaalem et al., 2014) and sexually conservative Indonesia (Mulya & Hald, 2014), suggesting that level of national acceptance of pornography does not have a major impact on self-perceived effects of pornography.

Finally, religious participants did not report using pornography any more or less frequently than their non-religious counterparts. However, they were more likely to feel that their pornography use has a negative impact on their lives. These findings are consistent with those of a recent study of US students (Grubbs, Exline, Pargament, Hook, & Carlisle, 2015) which found religiosity to be predictive of perceived addiction to pornography, but unrelated to level of pornography use. This relationship may be the result of religious participants' feelings of guilt for acting at odds with their religious or cultural values by consuming pornography. However, this cannot be determined with certainty as the survey did not contain any items directly measuring pornography-related religious guilt. Similarly, the finding may reflect the fact that pornography use has shaped these participants' sense of masculinity in a

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

way that is incompatible with the tenets of their religion (e.g., believing that masculinity is confirmed through sexual conquest with multiple partners).

The study has a number of limitations. First, the study utilised a non-probability sample. Therefore, we should be somewhat cautious when generalizing study findings to the wider population. This being said, the findings of the current study are congruent with existing research based on large representative samples (Hald & Malamuth, 2008; Rissel et al., 2016), suggesting that the findings are not simply the result of sampling biases. Finally, as discussed above, the study relies on self-report measures. Thus, cognitive biases (such as the tendency to reduce cognitive dissonance) may have shaded results. These issues aside, it does appear that pornography has a significant impact (both positive and negative) on men's sexual self-schemas and lives more generally, as judged by male consumers themselves.

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

References

- Attwood, F. (2011). After the paradigm shift: Contemporary pornography research. *Sociological Compass*, 5, 13–22. <http://dx.doi.org/10.1111/j.1751-9020.2010.00356.x>
- Brooks, G. (1995). *The centerfold syndrome*. San Francisco, CA: Jossey-Bass.
- Brown, J. D., & L'Engle, K. L. (2009). X-rated: Sexual attitudes and behaviors associated with US early adolescents' exposure to sexually explicit media. *Communication Research*, 36, 129–151. <http://dx.doi.org/10.1177/0093650208326465>
- Campbell, L., & Kohut, T. (2017). The use and effects of pornography in romantic relationships. *Current Opinion in Psychology*, 13, 6–10. <http://dx.doi.org/10.1016/j.copsyc.2016.03.004>
- Eisinga, R., Grotenhuis, M. T., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health*, 58, 637–642. <http://dx.doi.org/10.1007/s00038-012-0416-3>
- Elder, W. B., Brooks, G. R., & Morrow, S. L. (2012). Sexual self-schemas of heterosexual men. *Psychology of Men & Masculinity*, 13, 166–179. <http://dx.doi.org/10.1037/a0024835>
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University.
- Grubbs, J. B., Exline, J. J., Pargament, K. I., Hook, J. N., & Carlisle, R. D. (2015). Transgression as addiction: Religiosity and moral disapproval as predictors of perceived addiction to pornography. *Archives of Sexual Behavior*, 44, 125–136. <http://dx.doi.org/10.1007/s10508-013-0257-z>
- Hald, G. M. (2006). Gender differences in pornography consumption among young heterosexual Danish adults. *Archives of Sexual Behavior*, 35, 577–585. <http://dx.doi.org/10.1007/s10508-006-9064-0>

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Hald, G. M., & Malamuth, N. M. (2008). Self-perceived effects of pornography consumption.

Archives of Sexual Behavior, 37, 614–625. <http://dx.doi.org/10.1007/s10508-007-9212-1>

Hald, G. M., Malamuth, N. M. (2015). Experimental effects of exposure to pornography: The moderating effect of personality and mediating effect of sexual arousal. *Archives of Sexual Behavior*, 44, 99–109.

<http://dx.doi.org/10.1007/s10508-014-0291-5>

Hald, G. M., Malamuth, N. M., & Lange, T. (2013). Pornography and sexist attitudes among heterosexuals. *Journal of Communication*, 63, 638–660.

<http://dx.doi.org/10.1111/jcom.12037>

Hald, G. M., Seaman, C., & Linz, D. (2014). Sexuality and pornography. In D. L. Tolman & L. M. Diamond (Eds.), *APA handbook of sexuality and psychology: Vol. 2. Contextual approaches* (pp. 3–35). Washington, DC: American Psychological Association.

<http://dx.doi.org/10.1037/14194-001>

Hald, G. M., Træen, B., Noor, S. W., Iantaffi, A., Galos, D., & Rosser, B. S. (2015). Does Sexually Explicit Media (SEM) affect me? Assessing first-person effects of SEM consumption among Norwegian men who have sex with men. *Psychology & Sexuality*, 6, 59–74.

<http://dx.doi.org/10.1080/19419899.2014.984516>

Kingston, D. A., Malamuth, N. M., Fedoroff, P., & Marshall, W. L. (2009). The importance of individual differences in pornography use: Theoretical perspectives and implications for treating sexual offenders. *Journal of Sex Research*, 46, 216–232.

<http://dx.doi.org/10.1080/00224490902747701>

Kohut, T., Fisher, W. A., & Campbell, L. (2017). Perceived effects of pornography on the couple relationship: Initial findings of open-ended, participant-informed, “bottom-up” research. *Archives of Sexual Behavior*, 46, 585–602.

<http://dx.doi.org/10.1007/s10508-016-0783-6>

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

- Kvalem, I. L., Træen, B., Lewin, B., & Štulhofer, A. (2014). Self-perceived effects of internet pornography use, genital appearance satisfaction and sexual self-esteem among young Scandinavian adults. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 8(4), article 4. <http://dx.doi.org/10.5817/cp2014-4-4>
- Malamuth, N. M., Hald, G. M., & Koss, M. (2012). Pornography, individual differences in risk and men's acceptance of violence against women in a representative sample. *Sex Roles*, 66, 427–439. <http://dx.doi.org/10.1007/s11199-011-0082-6>
- McCormack, M., & Wignall, L. (2016). Enjoyment, exploration and education: Understanding the consumption of pornography among young men with non-exclusive sexual orientations. *Sociology*. Advanced online publication. <http://dx.doi.org/10.1177/0038038516629909>
- McKee, A. (2007). Positive and negative effects of pornography as attributed by consumers. *Australian Journal of Communication*, 34, 87–104. <http://search.informit.com.au/documentSummary;dn=200708022;res=IELAPA>
- Mikorski, R., & Szymanski, D. M. (2016). Masculine norms, peer group, pornography, facebook, and men's sexual objectification of women. *Psychology of Men & Masculinity*. Advance online publication. <http://dx.doi.org/10.1037/men0000058>
- Morgan, E. M. (2011). Associations between young adults' use of sexually explicit materials and their sexual preferences, behaviors, and satisfaction. *Journal of Sex Research*, 48, 520–530. <http://dx.doi.org/10.1080/00224499.2010.543960>
- Mulya, T. W., & Hald, G. M. (2014). Self-perceived effects of pornography consumption in a sample of Indonesian university students. *Media Psychology*, 17, 78–101. <http://dx.doi.org/10.1080/15213269.2013.850038>

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

- Peter, J., & Valkenburg, P. M. (2010). Processes underlying the effects of adolescents' use of sexually explicit Internet material: The role of perceived realism. *Communication Research, 37*, 375–399. <http://dx.doi.org/10.1177/0093650210362464>
- Rissel, C., Richters, J., de Visser, R. O., McKee, A., Yeung, A., & Caruana, T. (2017). A profile of pornography users in Australia: Findings from the Second Australian Study of Health and Relationships. *The Journal of Sex Research, 54*, 227–240. <http://dx.doi.org/10.1080/00224499.2016.1191597>
- Sun, C., Miezan, E., Lee, N.-Y., & Shim, J. W. (2014). Korean men's pornography use, their interest in extreme pornography, and dyadic sexual relationships. *International Journal of Sexual Health, 27*, 16–35. <http://dx.doi.org/10.1080/19317611.2014.927048>
- Træen, B., & Daneback, K. (2013). The use of pornography and sexual behaviour among Norwegian men and women of differing sexual orientation. *Sexologies, 22*, e41–e48. <http://dx.doi.org/10.1016/j.sexol.2012.03.001>
- Tylka, T. L. (2015). No harm in looking, right? Men's pornography consumption, body image, and well-being. *Psychology of Men & Masculinity, 16*, 97–107. <http://dx.doi.org/10.1037/a0035774>
- Wright, P. J. (2012). Show me the data! Empirical support for the “centerfold syndrome.” *Psychology of Men & Masculinity, 13*, 180–198. <http://dx.doi.org/10.1037/a0023783>
- Wright, P. J., & Bae, S. (2016). Pornography and male socialization. In Y. J. Wong & S. R. Wester (Eds.), *APA handbook of men and masculinities* (pp. 551–568). Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/14594-025>
- Wright, P. J., & Tokunaga, R. S. (2015). Activating the centerfold syndrome: Recency of exposure, sexual explicitness, past exposure to objectifying media. *Communication Research, 42*, 864–897. <http://dx.doi.org/10.1177/0093650213509668>

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Wright, P. J., Tokunaga, R. S., & Kraus, A. (2016a). A meta-analysis of pornography consumption and actual acts of sexual aggression in general population studies.

Journal of Communication, 66, 183–205. <http://dx.doi.org/10.1111/jcom.12201>

Wright, P. J., Tokunaga, R. S., & Kraus, A. (2016b). Consumption of pornography, perceived peer norms, and condomless sex. *Health Communication*, 31, 954–963.

<http://dx.doi.org/10.1080/10410236.2015.1022936>

Wright, P. J., Tokunaga, R. S., Kraus, A., & Klann, E. (2017). Pornography consumption and satisfaction: A meta-analysis. *Human Communication Research*. Advanced online publication. <http://dx.doi.org/10.1111/hcre.12108>

BLINDED FOR PEER REVIEW. (2017). *Measuring self-perceived effects of pornography: A short form version of the Pornography Consumption Effects Scale*. Manuscript submitted for publication.

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Table 1

Demographic Characteristics of Final Sample (N = 312)

Variable	%	<i>M (SD)</i>
Age		27.80 (10.71)
18-24	54.8	
25-34	22.1	
35-44	11.9	
≥45	11.2	
Religiosity ^a		3.25 (2.50)
Country		-
Australia/New Zealand	42.0	
Asia	18.9	
Europe	7.4	
USA	26.9	
North America, other	4.2	
Other	0.6	
Relationship status		-
In relationship, cohabiting	31.7	
In relationship, not cohabiting	22.1	
Not in relationship	46.2	
Highest level of formal education		-
No university study	23.8	
Some undergraduate study	32.2	
Undergraduate degree	25.1	
Some postgraduate study/degree	19.0	

^a1–9 scale, with higher scores indicating greater agreement with statement “I am religious”

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Table 2

Mean (SD) Score by PCES-SF Subscale

Subscale	Positive effect	Negative effect	Paired-samples <i>t</i> test
SL	3.19 (1.73)	1.70 (1.22)	$t(311) = 12.87^{***}$, $d = 1.00$
LG	2.62 (1.73)	1.96 (1.52)	$t(311) = 5.10^{***}$, $d = 0.41$
ATS	3.07 (1.73)	1.86 (1.28)	$t(311) = 10.99^{***}$, $d = 0.80$
PATOG	2.72 (1.80)	1.94 (1.43)	$t(311) = 6.59^{***}$, $d = 0.48$
SK	3.82 (1.67) ^a		

Note. SL = sex life; LG = life in general; ATS = attitudes toward sex; PATOG = perception of and attitudes toward the opposite gender; SK = sexual knowledge.

^aThere is no negative counterpart to the sexual knowledge subscale

* $p < .05$; ** $p < .01$; *** $p < .001$

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Table 3

Pearson's Correlations between Continuous Study Variables

	2	3	4	5	6	7
1. Positive effect dimension	.16**	.07	-.13*	.01	.31***	.02
2. Negative effect dimension		-.22***	.02	-.12	.08	.31***
3. Age			.02	.61***	.16**	.06
4. Age first use				.41***	-.18**	.02
5. Age at start of regular use					-.05	.21**
6. Pornography use						-.03
7. Religiosity						

Note. $df = 243-310$ * $p < .05$; ** $p < .01$; *** $p < .001$

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Table 4

Comparisons of Mean Positive and Negative Effect Dimension Scores for Groups Based on Categorical Study Variables

Variable	Positive effect		Negative effect	
	<i>M (SD)</i>	<i>Test</i>	<i>M (SD)</i>	<i>Test</i>
Country		$F(4, 305) = 1.18, \eta^2 = .03$		$F(4, 305) = 2.27, \eta^2 = .03$
Australia/New Zealand	3.05 (1.42)		1.91 (1.26)	
Asia	3.28 (1.38)		2.11 (1.37)	
Europe	3.71 (1.43)		1.65 (0.89)	
USA	3.18 (1.40)		1.65 (0.94)	
North America, other	3.34 (1.60)		1.35 (0.47)	
Other ^a	-		-	
Relationship status		$F(2, 307) = 0.75, \eta^2 = .01$		$F(2, 307) = 3.35^*, \eta^2 = .02$
In relationship, cohabiting	3.28 (1.45)		1.59 (0.93)	
In relationship, not cohabiting	3.26 (1.32)		2.00 (1.11)	
Not in relationship	3.07 (1.44)		1.92 (1.31)	
Highest level of formal education		$F(3, 307) = 0.79, \eta^2 < .01$		$F(3, 307) = 0.62, \eta^2 < .01$
No university study	2.97 (1.29)		1.90 (1.10)	
Some undergraduate study	3.29 (1.43)		1.84 (1.18)	
Undergraduate degree	3.24 (1.46)		1.88 (1.26)	
Some postgraduate study/degree	3.18 (1.42)		1.65 (1.10)	
Ever been a regular user?		$t(310) = 1.71, d = 0.25$		$t(65.39) = -4.12^{***}, d = -0.87^b$
Yes	3.24 (1.39)		1.61 (0.97)	
No	2.89 (1.50)		2.55 (1.48)	

^aNot tested due to small *n*; ^bAssumption of homogeneity of variances violated thus Welch's *t* test was used in place of Student's *t* test

p* < .05; *p* < .01; ****p* < .001

Table 5

Multiple Regression Analysis on Self-Perceived Positive and Negative Effects of Pornography Consumption

Variable	<i>B</i>	<i>SE</i>	β	<i>R</i> ²
Positive Effect				
Negative effect scores	0.10	0.07	.08	.10
Age first use	-0.05	0.03	-.10	
Pornography use	0.48***	0.10	.27	
Negative Effect				
Positive effect scores	0.08	0.05	.09	.21
Age	-0.02***	0.01	-.21	
Religiosity	0.13***	0.03	.28	
Ever been a regular user? ^a	-0.70***	0.19	-.23	
Pornography use	0.25**	0.07	.17	

^aResponse option "No" used as the reference value

p* < .05; *p* < .01; ****p* < .001

SELF-PERCEIVED EFFECTS OF PORNOGRAPHY

Appendix

The Short Form Pornography Consumption Effects Scale (PCES-SF)

To what extent do you believe your consumption of pornography:

- | | | |
|-----|-----------|---|
| 1. | SL (P) | Overall, has improved your sex life? |
| 2. | LG (N) | Has made your life more problematic? |
| 3. | PATOG (P) | Has made you more respectful towards the opposite gender? |
| 4. | SL (N) | Overall, has made your sex life worse? |
| 5. | ATS (N) | Has had a negative influence on your attitudes toward sex? |
| 6. | SK (P) | Has improved your knowledge of oral sex? |
| 7. | LG (P) | Has improved your quality of life? |
| 8. | ATS (P) | Has had a positive influence on your attitudes toward sex? |
| 9. | SL (P) | Has added something positive to your sex life? |
| 10. | PATOG (N) | Has led you to view the opposite gender more stereotypically? |
| 11. | ATS (N) | Has adversely influenced your opinions of sex? |
| 12. | SK (P) | Has improved your knowledge of sex? |
| 13. | ATS (P) | Has positively influenced your opinions of sex? |
| 14. | SL (N) | Has added something negative to your sex life? |
-

Note. SL = sex life; LG = life in general; ATS = attitudes toward sex; PATOG = perception of and attitudes toward the opposite gender; SK = sexual knowledge. (P) indicates that the item relates to the positive effect dimension. (N) indicates that the item relates to the negative effect dimension.

Scale construction is outlined in REFERENCE BLINDED FOR REVIEW. All items are on a 7 point scale: 1 = *not at all*; 2 = *to a very small extent*; 3 = *to a small extent*; 4 = *to a moderate extent*; 5 = *to a large extent*; 6 = *to a very large extent*; 7 = *to an extremely large extent*. Effect dimension totals and subscale totals are calculated by averaging the items contributing to the dimension or subscale.