



Pornography Use, Gender, and Sexual Objectification: A Multinational study

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Abstract

Pornography promotes sexual objectification by depicting people as bodies that are used primarily for sexual gratification. Across various methodologies, previous research has found positive associations between pornography use and sexually objectifying attitudes. However, there remains a need for multinational data collections to assess potential cross-cultural differences. In the present study, we collected data from heterosexual participants in four countries: Germany ($n=640$), Korea ($n=799$), Taiwan ($n=488$), and the United States ($n=888$). Using multigroup structural equation modeling, we found that gender and pornography use were significantly associated with sexually objectifying behaviors in each country evaluated. Specifically, people who more frequently watch pornography were more likely to endorse engaging in types of sexual objectification. Because these four countries were relatively homogenous regarding gender inequality, future studies should collect data from more diverse countries to investigate potential moderating effects of related cultural variables on the association between pornography use and sexual objectification.

Keywords Pornography · Sexual objectification · Multinational · Gender · Sexual media

Introduction

People, especially women, can be exposed to messages that their bodies are sexual objects at a macro level via media like pornography or advertisements as well as at a micro level in their interactions with other people (Calogero & Tylka, 2014; Lameiras-Fernández et al., 2018). Further, multiple studies have demonstrated the positive association between pornography use and sexually objectifying attitudes or behaviors (Peter & Valkenburg, 2007, 2009; Ward et al., 2015). That people who

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more frequently use pornography report greater levels of endorsing or engaging in sexual objectification has been found in several countries, including Japan (Omori et al., 2011), the Netherlands (Vandenbosch & van Oosten, 2017), and the United States (Mikorski & Szymanski, 2017). However, variations in methodologies across studies make it difficult to validly compare findings across countries (Peter & Valkenburg, 2016). To overcome this limitation of previous research, our research team conducted a multinational survey and collected data regarding pornography use and sexual objectification from convenience samples in four countries: Germany, Korea, Taiwan, and the United States.

Pornography and Sexual Objectification

People learn about sexual norms when they view sexually explicit content (Brown & L'Engle, 2009; Rothman et al., 2015). Regarding the sexual norms perpetuated by pornography, several content analyses have reported that this sexual medium regularly presents sexually objectifying depictions of women (Bridges et al., 2010; Fritz & Bryant, 2017; Klaassen & Peter, 2015). For decades, pornographic content in videos, DVDs, magazines, and on the internet have primarily positioned women's bodies—especially their genitals—as the center of attention (e.g., Cowan et al., 1988; Klaassen & Peter, 2015; Monk-Turner & Purcell, 1999). As another illustration, Bridges et al. (2010) noted that the location of male ejaculation may be a component of female sexual objectification; in their content analysis, they found that male ejaculation “almost always occurred outside the female character's vagina” (p. 1074). Similarly, Gorman, Monk-Turner, and Fish (2010) found that 45% of the films in their sample depicted male ejaculation as visibly occurring on the face or mouth of a female character. Gorman et al. (2010) also reported that in 47% of the films male characters directed female characters in sexually objectifying ways (e.g., “Get down on your knees,” “Get back up,” or “Lean forward” [p. 138]). These sundry depictions of women as sex objects are linked with pornography users' attitudes regarding women as sex objects (Peter & Valkenburg, 2007).

The association between pornography use and sexually objectifying attitudes has been consistently found across methodologies and across countries. Using a cross-sectional study of adolescents in the Netherlands, Peter and Valkenburg (2007) found that more frequent exposure to sexual media was associated with greater notions of women as sex objects (e.g., “There is nothing wrong with boys being primarily interested in a woman's body” and “Unconsciously, girls always want to be persuaded to have sex” [p. 389]). The sexual media that were related to sexually objectifying attitudes included explicit magazines, explicit video/DVD, and explicit pictures/movies on the internet, as well as semi-explicit magazines and television; more frequent exposure to non-explicit magazines or television was not associated with viewing women as sex objects. In another study of Dutch adolescents, Vandenbosch and van Oosten (2017) also found that frequency of pornography use was positively associated with sexually objectifying women. In a cross-sectional study in Japan, college students who more frequently used pornography more strongly perceived women to be sex objects (Omori et al., 2011). This association was significant for all three types of sexually explicit material assessed (i.e., internet, print media, and television/video/

DVD). In a sample of undergraduate students in the United States, Mikorski and Szymanski (2017) found that pornography use frequency was positively associated with sexual objectifying behaviors (e.g., “How often have you noticed yourself staring at a woman’s breasts when you are talking to them?”). Finally, in another sample of undergraduate students in the United States, Wright and Tokunaga (2016) found that pornography use frequency was positively associated with sexually objectifying attitudes.

Because cross-sectional studies are unable to identify a clear temporal association between exposure to pornography and beliefs that women are sex objects, Peter and Valkenburg (2009) conducted a three-wave panel study of adolescents in the Netherlands. They found that exposure to online pornography positively predicted notions of women as sex objects six months later (Peter & Valkenburg, 2009). Further, pornography use at Time 1 was more strongly associated with sexual objectification attitudes at Time 2 than it was with these attitudes at Time 1. As such, pornography use preceded—and may have actively shaped—subsequent attitudes (Peter & Valkenburg, 2009). In a separate three-wave panel study of Dutch adolescents, Ward et al. (2014) similarly found that more frequent exposure to pornographic magazines was associated with rating women’s buttocks, breasts, belly, and body size as generally more important. Here, pornography use at Time 1 was associated with sexual objectification at Time 2, but pornography use at Time 2 was not associated with sexual objectification at Time 3. Therefore, it may be that sexual media only influence these attitudes to a certain extent (Ward et al., 2014).

There has also been experimental evidence regarding the effect of sexual media on sexual objectification. One study exposed college women to sexually explicit magazines that varied in the amount of clothing women wore; those researchers found that women who saw magazines showing relatively more revealing attire were more permissive of men sexually objectifying women (i.e., gazing at a woman to evaluate her body [Wright et al., 2015]). In another experiment, Ward and Friedman (2006) demonstrated that exposure to a television clip that sexually objectified women increased notions of women as sex objects (e.g., “The best way for a girl to attract a guy is to use her body and looks” [p. 142]).

Even though men more frequently use pornography than women (e.g., Kim, 2011; Solano et al., 2018; Weber et al., 2012) and endorse greater beliefs that women are sex objects (e.g., Ward et al., 2015; Wright & Tokunaga, 2016), there is consistent evidence that gender does not moderate the association between more frequent pornography use and sexual objectification. In a cross-sectional study (Peter & Valkenburg, 2007), a longitudinal study (Peter & Valkenburg, 2009), and an experimental study (Ward & Friedman, 2006), the effects of pornography use on sexually objectifying attitudes did not vary by gender. These findings corroborated previous research that the effects of pornography use are similar for women and men (e.g., Zillmann & Bryant, 1982, 1988).

Present Study

While the positive association between pornography use and sexual objectification has been reported consistently across methodologies (e.g., cross-sectional, longi-

tudinal, experimental) and across several countries (e.g., Japan, the Netherlands, the United States), it is difficult to make direct comparisons across countries when the studies vary in their operational definitions and years of data collection (Peter & Valkenburg, 2016). As such, many researchers have called for multinational studies to further examine this association (e.g., Peter & Valkenburg, 2009; Vandenbosch & van Oosten, 2017). In Peter and Valkenburg's (2016) review of pornography research several years later, they noted the continued need for evidence "from more and more diverse countries, and preferably from cross-nationally comparative research, to understand the cultural contingencies" regarding the effects of pornography use (p. 526). Although there have been multiple calls for cross-national comparative research regarding the association between pornography use and sexual objectification, we are not aware of any multinational studies that have investigated this association.

To address calls for cross-national comparative research on the effects of pornography, we investigated the associations between pornography use and sexual objectification across multiple countries. Given the literature reviewed above, we hypothesized the following:

Hypothesis 1 More frequent pornography use would be positively associated with sexual objectification.

Hypothesis 2 Gender would be associated with sexual objectification; men would endorse greater sexual objectification than women.

Hypothesis 3 Gender would not moderate the association between pornography use and sexual objectification.

Method

Procedure and Participants

The data for this article came from an online survey of heterosexual adults. This project was part of a collaborative, multisite study of culture and sexual behavior conducted by a consortium of international cross-disciplinary scholars from the fields of psychology, communication, and sociology. All participating university institutional review boards approved the project. Participants were recruited via departmental and college-wide email announcements, flyers posted on campus, or introductory courses. Interested participants were directed to an online survey posted on SurveyMonkey, a web-based survey service; each recruitment site had a unique link. Participants first provided their informed consent, then they confirmed their eligibility prior to completing the survey. Participation took approximately 30 min. Following survey completion, participants received a full debriefing and were given an opportunity to enter into a raffle to win one of three cash prizes (one \$100 USD and two \$60 USD prizes were awarded via random selection of all interested participants).

Overall, 44.7% of people who began the survey completed it, resulting in a total analytic sample of 2,815: Germany ($n=640$), Korea ($n=799$), Taiwan ($n=488$), and the United States ($n=888$). Figure 1 presents survey completion rates by country. Table 1 presents a breakdown of sociodemographic information for the total analytic sample and by country.

Measures

The constructs measured in the present study were sociodemographic variables, pornography use, and sexual objectification. All measures were first written in English and then translated by native speakers within the international research consortium. These measures were administered in the country's native language.

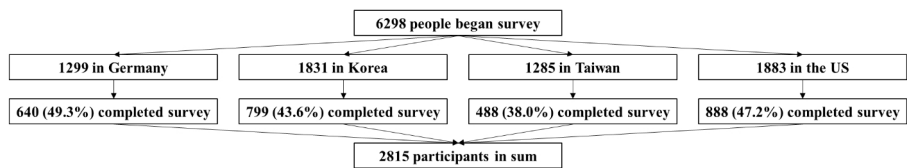


Fig. 1 Survey completion rates by country

Table 1 Sociodemographic Characteristics by Country ($N=2,815$)

	Total Sample ($N=2,815$)	Germany ($N=640$)	Korea ($N=799$)	Taiwan ($N=488$)	United States ($N=888$)
Age M (SD)	25.19 (7.17)	30.02 (8.13)	24.40 (4.37)	24.95 (5.30)	22.61 (7.71)
Gender n (%)					
Female	1038 (36.9)	289 (45.2)	196 (24.5)	183 (37.5)	370 (41.7)
Male	1777 (63.1)	351 (54.8)	603 (75.5)	305 (62.5)	518 (58.3)
Student n (%)					
Yes	1970 (70.0)	284 (44.4)	655 (82.0)	254 (52.0)	777 (87.5)
No	845 (30.0)	356 (55.6)	144 (18.0)	234 (48.0)	111 (12.5)
Upbringing location n (%)					
City	1239 (45.3)	180 (29.4)	529 (66.9)	364 (79.5)	166 (19.0)
Suburb	1050 (38.4)	190 (31.0)	222 (28.1)	94 (20.5)	544 (62.1)
Rural	448 (16.4)	243 (39.6)	40 (5.1)	0 (0.0)	165 (18.9)
Relationship status n (%)					
In relationship	1533 (55.4)	422 (67.3)	417 (52.3)	286 (59.0)	412 (47.8)
Not in a relationship	1232 (44.6)	203 (32.7)	380 (47.7)	199 (41.0)	450 (52.2)

Note. Some participants that completed all of the items of interest for the present study did not report all of their sociodemographic information.

Sociodemographic variables

We asked participants to indicate their gender, age, student status, location of upbringing, and relationship status. Gender was measured dichotomously: woman or man. Age was measured continuously. Student status was measured dichotomously: student or not a student. Response options for location of upbringing included city, suburb, and rural. Relationship status was measured dichotomously: not in a relationship or in a relationship (i.e., in a relationship but not monogamous, in a monogamous relationship but not living with partner, living with partner but not married, or married).

Pornography use frequency

To assess frequency of intentional pornography use, we asked, “On average, how often do you use pornography for masturbation?” Response options were on an eight-point scale: *Never*, *Less than once a year*, *A few times a year*, *Once a month*, *A few times a month*, *1–2 days a week*, *3–5 days a week*, and *Daily or almost daily*. Higher scores indicate more frequent pornography use. Similar item wording and response scales have been used to measure frequency of pornography use in previous studies (e.g., Szymanski & Stewart-Richardson, 2014; Wright & Tokunaga, 2016).

Sexual objectification

To assess engagement in day-to-day thoughts and behaviors that are sexually objectifying, four items were developed based on data from heterosexual women and men on their own and their sexual partners’ pornography use that were collected via individual and group interviews conducted by one of the authors. Two items measured internal cognitive processes: “When I see an attractive woman/man, I imagine how she/he looks naked” and “I fantasize about having sex with attractive female/male strangers I encounter.” The other two items captured behavioral cues: “When I am talking to an attractive woman/man at work or at school, I tend to focus on her breasts/check out his groin area” and “When I pass by an attractive woman/man, I tend to check out her/his butt.” Because only heterosexual participants were eligible to participate, female participants received the versions of these items that presented men as the objects and vice versa. Response options were on a six-point scale from *Strongly Disagree* to *Strongly Agree*. Higher scores indicate stronger agreement with engaging in sexually objectifying behaviors.

These four items demonstrated good internal consistency in each country: Germany (Cronbach’s $\alpha=0.76$), Korea ($\alpha=0.87$), Taiwan ($\alpha=0.85$), and the United States ($\alpha=0.80$). A confirmatory factor analysis (CFA) provided evidence that the items loaded onto a single factor, $\chi^2(2)=27.68$, $p<.001$, CFI=0.993, TLI=0.979, RMSEA=0.068, SRMR=0.016. Further, a multigroup CFA suggested that constraining this one-factor model across the four countries (i.e., configural invariance) did not substantially worsen data-model fit according to most of the alternative fit indices, $\chi^2(8)=73.81$, $p<.001$, CFI=0.983, TLI=0.949, RMSEA=0.108, SRMR=0.018.

Analysis

To test our hypotheses, we conducted a regression model using multigroup structural equation modeling. The outcome measure was a latent variable comprising the four sexual objectification items. The first step of the model tested the predictive effects of gender and pornography use frequency by country; the second added the interaction term between gender and pornography use frequency as a third predictor.

Results

Descriptive Statistics and Bivariate Associations

Descriptive statistics and gender comparisons for sexual objectification and pornography use frequency are presented by country in Table 2. When averaging the four sexual objectification items, the mean across all participants was 3.64, which demonstrates slightly more agreement than disagreement overall. The average pornography use frequency was 4.90, which translates to at least once a month. Both of these variables were distributed normally in each country; neither demonstrated absolute values of skew or kurtosis that were greater than 1.

On average, three countries had similarly high level of sexual objectification compared with Germany (3.08): Korea (3.73), Taiwan (3.89), and the United States (3.81). Germany also had the least frequent pornography use (3.68); the frequency in the United States (4.98) was relatively lower than Korea (5.52) and Taiwan (5.36). In all four countries, men scored significantly higher than women on both of these variables. At the bivariate level, sexual objectification was positively correlated with pornography use frequency in each of the countries: Germany ($r = .289$, $p < .001$), Korea ($r = .365$, $p < .001$), Taiwan ($r = .292$, $p < .001$), and the United States ($r = .295$, $p < .001$).

Table 2 Gender Differences of Key Variables by Country

	Sexual Objectification				Pornography Use Frequency			
	Total <i>M</i> (<i>SD</i>)	Women <i>M</i> (<i>SD</i>)	Men <i>M</i> (<i>SD</i>)	<i>t</i>	Total <i>M</i> (<i>SD</i>)	Women <i>M</i> (<i>SD</i>)	Men <i>M</i> (<i>SD</i>)	<i>t</i>
Germany	3.08 (1.13)	2.65 (1.10)	3.14 (1.11)	-5.53***	3.68 (1.85)	2.77 (1.49)	4.78 (1.63)	-16.16***
Korea	3.73 (1.27)	2.84 (1.31)	4.02 (1.11)	-11.41***	5.52 (1.69)	3.86 (1.87)	6.06 (1.20)	-15.49***
Taiwan	3.89 (1.22)	3.48 (1.22)	4.13 (1.16)	-12.47***	5.36 (1.90)	4.10 (1.90)	6.12 (1.44)	-12.57***
United States	3.81 (1.11)	3.45 (1.17)	4.06 (1.03)	-8.38***	4.98 (1.87)	3.95 (1.74)	5.72 (1.59)	-15.47***
Total	3.64 (1.24)	3.31 (1.19)	3.83 (1.20)	-16.21***	4.90 (1.95)	4.19 (1.80)	5.32 (1.91)	-15.47***

Note. *** $p < .001$.

Hypothesis Testing

The hypothesized multigroup SEM model that constrained overall factor structure (i.e., four items loading onto one factor for the dependent variable) adequately fit the data, $\chi^2(32)=283.86, p<.001$, CFI=0.944, TLI=0.901, RMSEA=0.106, SRMR=0.036. However, factor loadings varied across the four countries and could not be constrained without significantly worsening model fit, $\Delta\chi^2(9)=29.42, p<.001$.

Table 3 Multigroup SEM Regressing Gender and Pornography Use Frequency onto Sexual Objectification

	Germany	Korea	Taiwan	United States
	β (SE)	β (SE)	β (SE)	β (SE)
Step 1				
Gender	0.13** (0.11)	0.32*** (0.11)	0.16** (0.13)	0.22*** (0.09)
Pornography Use	0.23*** (0.03)	0.23*** (0.03)	0.23*** (0.03)	0.22*** (0.02)
Step 2				
Gender*Pornography Use	0.08 (0.06)	0.29* (0.06)	-0.13 (0.07)	0.04 (0.05)
R ²	0.11	0.24	0.12	0.14

Note. β =standardized regression coefficient. SE=standard error.

** $p<.01$. *** $p<.001$.

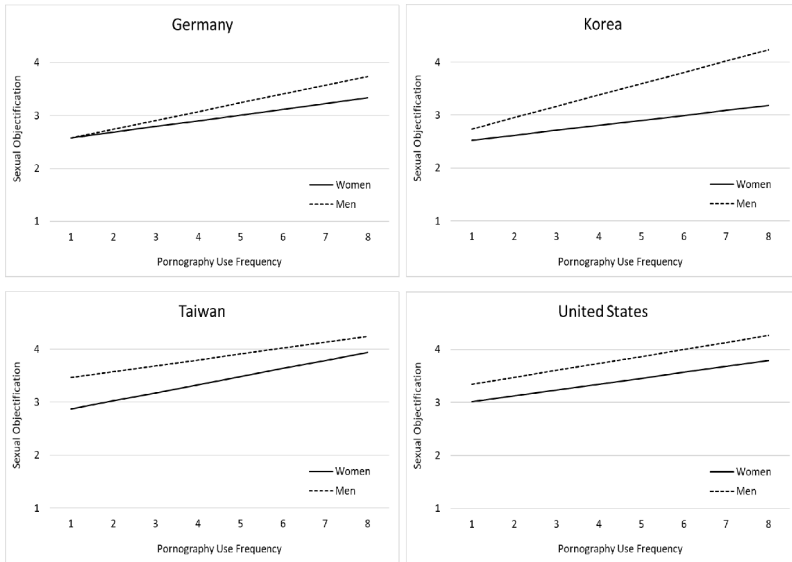


Fig. 2 Simple slopes depicting the association between pornography use frequency and sexual objectification by gender for each country

¹ χ^2 values (df=8) for each country: Germany=48.20, Korea=124.14, Taiwan=26.99, and United States=84.53.

Therefore, parameter estimates based on the configural invariance model are presented in Table 3.

The first step of the model supported Hypotheses 1 and 2; gender and pornography use frequency were associated with sexual objectification in each country. In each country, men were significantly more likely to endorse sexually objectifying behaviors than women: Germany ($p=0.09$), Korea ($p<.001$), Taiwan ($p=.003$), and the United States ($p<.001$). Controlling for gender, participants who reported more frequent pornography use also more strongly endorsed sexually objectifying behaviors; the effect size for this association was similar across countries: Germany ($p<.001$), Korea ($p<.001$), Taiwan ($p<.001$), and the United States ($p<.001$).

The second step of the model partially supported Hypothesis 3. As predicted, the effect of pornography use frequency on sexually objectifying behaviors did not significantly vary by gender in three countries: Germany ($p=.403$), Taiwan ($p=.465$), and the United States ($p=.779$). However, this association significantly differed between women and men in Korea ($p=.038$). Simple slopes by gender demonstrated that, in Korea, pornography use frequency was more strongly associated with sexual objectification for men than for women (Fig. 2).

Discussion

Sexual objectification refers to the treatment of people merely as a body used primarily for sexual gratification. In the present study, we found that gender and pornography use were both associated with engaging in sexually objectifying behaviors. Across four countries, men consistently endorsed greater levels of sexual objectification than women. Controlling for this gender difference, we found that the effect size for the positive association between pornography use frequency and sexual objectification was stable across the countries included in this study.

The significant associations between pornography use and sexual objectification in our multinational study corroborated previous research in individual countries (e.g., Mikorski & Szymanski, 2017; Peter & Valkenburg, 2007, 2009). In each of the four countries sampled, participants who more frequently used pornography—a medium that models sexual objectification (e.g., Bridges et al., 2010; Klaassen & Peter, 2015)—more strongly endorsed sexually objectifying thoughts and behaviors. There were also consistent main effects of gender across all countries in that men both used pornography more frequently and had higher sexual objectification scores. However, gender did not moderate the association between pornography use and sexual objectification in three of the countries assessed—supporting previous research that also did not find a significant interaction (Peter & Valkenburg, 2007, 2009; Ward & Friedman, 2006). The exception was Korea, wherein the positive association between pornography use frequency and sexually objectifying behaviors was stronger for men than it was for women. But overall, the effects we found were largely in line with extant studies using samples from individual countries; more frequent pornography use is related to sexual objectification.

While the effect of pornography use on sexually objectifying behaviors was consistent across the four countries included in this study, cross-cultural variations

regarding sexual objectification might be affected by other media being more likely to endorse sexually objectifying content. For example, previous research has found that Korean magazines feature more advertisements that focus on body parts than those in the United States (Jung & Lee, 2009). Other types of media that might vary across cultures in the extent that they depict sexually objectifying content include music (Weitzer & Kubrin, 2009), television shows (Verhellen et al., 2016), and social media (Blake et al., 2018). Multinational research on sexually objectifying content in the media and effects of people's consumption of that media on their attitudes and behaviors is needed to better understand the cultural nuances regarding sexual objectification.

Collecting data from multiple countries can also enable researchers to directly compare countries and examine the potential effects of country-level variables. One potentially relevant country-level variable regarding the association between pornography use and sexual objectification is gender inequality. There is evidence that gender inequality is especially evident when men demonstrate their status by sexually objectifying women (Morgan & Davis-Delano, 2016). As such, Calogero and Jost (2011) posited that gender inequality and sexism create an environmental antecedent to sexual objectification. Supporting this claim, two of the core criteria for sexually objectifying environments included "traditional gender roles exist" and "women typically hold less power than men in that environment" (Szymanski et al., 2011, p. 20–21). Therefore, future studies should investigate whether the extent gender inequality is present in a country influences the individual attitudes or behaviors of its residents regarding sexual objectification. Because the four countries in our sample were all relatively egalitarian regarding gender (i.e., each rating below the median on the Gender Inequality Index); more variation may be needed to adequately test this hypothesis.

Implications

Prevalent in modern societies, sexual objectification may contribute to a variety of negative psychological outcomes for those who are objectified, including greater body shame or anxiety which can lead to depression, eating disorders, trauma symptoms, and sexual dysfunction (Miles-McLean et al., 2015; Moradi & Huang, 2008; Tylka & Kroon Van Diest, 2015). While there is evidence that endorsing sexual objectification can lead to acceptance of violence against women (Wright & Tokunaga, 2016), there are also data to suggest that it does not take extreme forms of sexual objectification (e.g., sexual assault) to negatively affect those targeted—even subtle day-to-day sexual objectification can impair the emotional well-being of those targeted (Szymanski & Feltman, 2014).

Given the detrimental effects of perceiving people as sexual objects and the widespread use of pornography,² we support efforts to decrease the effect of pornography

² Estimates of lifetime prevalence rates of pornography use vary based on where the data were collected: 81–90% in Germany (Weber et al., 2012), 4–85% in Korea (Kim, 2011; Sun et al., 2013), 59–71% in Taiwan (Chen et al., 2013), and 13–91% in the United States (Bleakley et al., 2011; Solano et al., 2018).

use on sexual objectification. One potential intervention technique is supplementing sex education curricula with pornography literacy, which aims to help pornography users “equip themselves to critique sexualized media and construct their own meanings from content” (Dawson et al., 2019, p. 2). Indeed, there is evidence that promoting pornography literacy may attenuate the effect of online pornography use on sexual objectification (Vandenbosch & van Oosten, 2017). Further, the need to address pornographic content that depicts women as objects remains relevant for contemporary stakeholders because a recent replication of Bridges et al.’s (2010) study found that pornographic films are just as sexually objectifying as they were a decade ago (Bridges et al., under review). Consequently, an alternative approach to diminishing the effect of pornography use on sexual objectification might be to reduce the objectifying content of pornography.

Strengths, Limitations, and Future Directions

The primary strength of our study and biggest contribution to the literature was its multinational design. However, despite spanning three continents, the four countries that we sampled from (i.e., Germany, Korea, Taiwan, and the United States) are relatively homogenous in many ways; all are industrialized nations and all have below average scores for gender inequality United Nations Development Programme. (2020). *Table 5. Gender Inequality Index (GII)*. Human Development Reports. <https://doi.org/hdr.undp.org/en/content/gender-inequality-index-gii>. There remains a need to diversify the countries included in pornography research to “challenge and enrich what we currently know about the topic” (Peter & Valkenburg, 2016, p. 528).

With its cross-sectional design, the present study remained unable to identify a temporal direction between exposure to pornography and beliefs that women are sex objects—or if some other construct predisposes people to both. However, Peter and Valkenburg (2009) and Brown and L’Engle (2009) provided evidence that supported the temporal-sequencing proposed by the present study. With adequate resources, it would be informative to have multinational studies that incorporate experimental or longitudinal designs.

Further limiting our study, we relied on convenience sampling; as such, it is possible that participants who responded to recruitment materials and agreed to participate were innately more open to sexuality due to the nature of the survey (i.e., a self-selection bias). More representative sampling techniques allow findings to be more generalizable. We also used retrospective measures of sexual behaviors, which are subjected to memory biases (Willis & Jozkowski, 2018). Future studies should consider assessing behaviors regarding pornography use and sexual objectification using study designs that are able to capture more proximal data (e.g., experience sampling methodology).

Finally, our measure of engagement in sexual objectification—while developed by experts in the field—did not undergo stringent measure development procedures. Two findings supported its validity: (1) a CFA provided evidence that the four items loaded onto a single factor in each of the countries and (2) this measure of sexually objectifying thoughts and behaviors produced similar associations with pornography

use and gender as other measures have in previous studies. Further, this measure was unique compared with previously used measures in that it assessed sexually objectifying thoughts and behaviors rather than attitudes, assessed women's sexually objectification toward men rather than toward other women, and was developed in American English then translated into German, Korean, and Chinese.

Conclusion

In our multinational study, we provided additional evidence regarding the positive association between pornography use and sexually objectifying behavior—and that both women and men experience this association. We extended previous work by using a methodology and analytic approach that allowed us to make direct comparisons across countries. To further corroborate our findings, future multinational studies should collect data from more diverse countries.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent: Informed consent was obtained from all participants included in the study.

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