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Size Matters After All: Experimental Evidence that SEM Consumption Influences Genital and Body Esteem in Men

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Abstract

Previous research has found that images depicted in the mainstream media have a negative influence on self-esteem, particularly among women. With the ease of accessibility and distribution of sexually explicit material (SEM) in recent years, due largely to the rise of the Internet, it has been postulated that consumers of SEM may experience reduced self-esteem in an effect similar to that found in research on exposure to mainstream media imagery. This experimental investigation explored whether exposure to SEM influenced self-esteem in consumers and whether this effect was comparable with that of exposure to mainstream media. Male and female participants were randomly assigned to no imagery, mainstream media imagery, or SEM imagery conditions and asked to report levels of overall global self-esteem, as well as levels of body-specific and genital-specific self-esteem. Mean scores were significantly lower for female participants relative to males overall, but exposure to SEM imagery revealed a significant negative effect on body-specific and genital-specific self-esteem among men only. Implications and limitations of these findings are discussed.

Keywords

sexually explicit material, pornography, media, self-esteem, body image, genitalia

In response to the ever-increasing accessibility of the Internet, the pornography industry has rapidly developed into one of the most profitable in the Western world (Stewart & Szymanski, 2012). The sheer volume of sexually explicit material (SEM) available for consumption online has grown concurrently with the increase in Internet-accessible devices such as smartphones, tablets, and laptops (Hare, Gahagan, Jackson, & Steenbeek, 2014; Mattebo, Larsson, Tydén, Olssen, & Häggström-Nordin, 2012; Owens, Behun, Manning, & Reid, 2012). In a 2010 study, Ogas and Gaddam determined that of the 1 million most visited websites, 42,337 were sex-related, equivalating to approximately 4% worldwide. A further analysis of web searches from July 2009 to July 2010 revealed approximately 13% centered around sexually explicit content (Ogas & Gaddam, 2012). With the annual release of consumption data from the popular website "pornhub.com", these numbers have evidently continued to rise—the 2018 Pornhub Year in Review reported a grand total of 33.5 billion visitors, equating to more than 100 million people watching pornography per day at a rate of 962 searches per second (Pornhub, 2018). Pornhub is but one pornographic website among thousands that are easily accessible with any device providing a connection to the Internet.

The Internet provides an excellent medium for the distribution of SEM given its rising prominence in modern culture—by 2010, the United States saw 93% of adolescents between the ages of 12 and 17 years regularly accessing the Internet, with 63% reporting daily use (Lenhart, Purcell, Smith, & Zickur, 2010). Although only 25% of youth in 2003 had been exposed to SEM online (Mitchell, Finkelhor, & Wolak, 2003), by 2008 this number had grown to 93% for boys and 62% for girls (Sabina, Wolak, & Finkelhor, 2008). Furthermore, it is estimated that by the age of 12 years, 51% of boys and 32% of girls will have intentionally viewed some form of SEM online (Leahy, 2009). As accessibility to the Internet increases, so too does access to pornography. Pornhub statistics in 2018 revealed that 71.6% of Pornhub viewers used a mobile device to access the website (Pornhub, 2018), indicating that today's technology provides an ease of

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expedience to SEM not previously available to past generations.

One issue surrounding the ubiquitous availability and consumption of SEM has centered on the postulation that SEM provides unrealistic depictions of the male and female body and its proportions (Lundin-Kvalem, Træen, Lewin, & Štulhofer, 2014; Mattebo et al., 2012; Moran & Lee, 2014). Some researchers have suggested that consumers of SEM, particularly adolescents in the prime of their pubertal and sexual development, may consequently be at risk of developing unrealistic schemas of what constitutes "normal" in terms of one's body (Hald & Malamuth, 2008; Hare et al., 2014; Ybarra & Mitchell, 2005). For example, analyses of pornographic content have found erect penis sizes in male pornographic actors to average in the top third percentile in terms of overall size (Lever, Frederick, & Peplau, 2006), whereas a disproportionately large number of pornographic actresses have breast and/or buttock implants, relative to the general population (Lever et al., 2006; Moran & Lee, 2014). Although such depictions are not outside the realm of possible human proportions and preferences, the amount of variation that occurs in the general population is much larger than that typically portrayed in SEM (Lundin-Kvalem et al., 2014; Mattebo et al., 2012; Moran & Lee, 2014).

With access to the Internet and thus, unfettered access to SEM, merely a smartphone click away, concerns have been generated as to the potential influence of SEM consumption on body image and self-esteem—and whether SEM influences consumers in a manner similar to that seen in nonsexually explicit forms of media exposure. From commercials to magazine ads, research examining hyper-sexualized images portrayed in the media have been argued to negatively influence self-esteem (Hendriks, 2002; McCabe, Butler, & Watt, 2007; Morrison, Ellis, Morrison, Bearden, & Harriman, 2004; Morrison, Harriman, Morrison, Bearden, & Ellis, 2006). Furthermore, media-exposure studies consistently report significant findings in participants exposed to such images relative to control groups, including a decrease in muscle satisfaction (Agliata, Tantleff-Dunn, 2004), increased pressure to reduce body fat (Miller & Halberstadt, 2005), and decreased overall body satisfaction (Guðnadóttir & Garðarsdóttir, 2014). Given that sexualized advertisements highlighting both genders have increased over time (Graff, Murnen, & Krause, 2013), the potential negative influence of exposure on the self-esteem of consumers would thus appear to be a valid concern warranting active research.

Conceptualizing Self-Esteem

Self-esteem refers to a person's appraisal of the degree to which they are valued or devalued (Leary & Baumeister, 2000). The construct is difficult to measure, as researchers have yet to consistently agree on how self-esteem is operationally defined and evaluated (Hewitt, 2005; Kuster & Orth, 2013; Trzesniewski, Donnellan, & Robins, 2013). Currently, self-esteem is defined with reference to two distinct domains—global self-esteem and state (or domain-specific) self-esteem (Brown & Marshall, 2006; Leary & Baumeister, 2000; Trzesniewski et al., 2013). Global self-esteem denotes a global value judgment about the self. It is an evaluation of the way people feel about themselves overall and is relatively stable across the lifetime (Kuster & Orth, 2013; Leary & Baumeister, 2000; Trzesniewski et al., 2013). In contrast, state self-esteem involves appraisals of one's value in a particular area or situation. It refers to aspects of a person's feeling of self that are subject to change, is affected by emotional responses to events that "threaten" sense of self (Brown & Marshall, 2006; Eisenberger, Inagaki, Muscatell, Haltom, & Leary, 2011), and is highly correlated with perceived acceptance or rejection of oneself relative to others (Eisenberger et al., 2011; Leary & Baumeister, 2000). Thus, these two domains of self-esteem are unique and not necessarily interchangeable, although these two domains may certainly overlap (Brown & Marshall, 2006). For instance, situational factors that affect state self-esteem may cause it to fluctuate further away from or closer toward the more stable, consistent global self-esteem state, potentially resulting in overlap.

Social comparison theory (Festinger, 1954) explains how state self-esteem can be affected through means of social comparison and self-perception, asserting that individuals compare themselves with others on various aspects of self in efforts to better understand their social positioning and how they relate to others. Failure to meet the perceived standards of others is then correlated with lowered state self-esteem (Lundin-Kvalem et al., 2014; Morrison et al., 2006; Morrison et al., 2004). Social comparison theory proposes to explain how exposure to media images, for instance, can have a negative impact on state self-esteem. Specifically, when consumers are exposed to idealized media advertisements—and subsequently feel that they fail to meet the beauty or body standards displayed—they will conclude that they are incomparable, and that social rejection is imminent. The resulting consequence is a negative impact on self-esteem.

Low self-esteem has been shown to increase the risk of overall body dissatisfaction, particularly among youth (Orth, Robins, Widaman, & Conger, 2014; Paxton, Neumark-Sztainer, Hannan, & Eisenberg, 2006; Verplanken & Tangelder, 2011). In addition, low self-esteem is associated with an increased risk of anxiety and depression, an increased vulnerability to drug and alcohol abuse, and can contribute to relationship issues and impaired academic or vocational performance (Counseling and Mental Health Center, 2015). Pervasively low self-esteem thus poses numerous psychological health risks to those afflicted (Orth et al., 2014; Paxton et al., 2006; Verplanken & Tangelder, 2011), which in turn stipulates an important measure of overall health and an important area of research.

It is important, however, to distinguish the type of self-esteem affected when referencing the immediate effects that

media exposure may have on consumers. Longitudinal studies examining global self-esteem have found that it typically develops similarly across the life span for all races and genders: It is relatively high in childhood, drops throughout adolescence, and rises steadily into adulthood before declining into old age (Kuster & Orth, 2013; Robins & Trzesniwski, 2005; Trzesniewski et al., 2013). In contrast, life events can affect state self-esteem in either a positive or negative manner. For example, a study conducted by Wong et al. (2015) had male participants primed to reflect upon stereotypically masculine moments that had occurred previously in their lifetime. The primed group ultimately reported higher levels of state self-esteem specifically regarding their masculinity relative to an unprimed control group. Thus, although global self-esteem largely remains stable throughout the lifetime, facets of state self-esteem are variable and vulnerable to positive and negative life experiences. As such, any effect that media exposure—including SEM consumption—has on the self-esteem of consumers would be *state-specific*, not global. If exposure to SEM poses any risk of negatively affecting state self-esteem, it is clearly worthy of further investigation.

Influence of SEM Exposure

It has been postulated in today's media culture that, like the effects of media advertisements on self-esteem, increased access and exposure to SEM must therefore have a negative impact on the state self-esteem of consumers in response to the unrealistic body proportions presented (Montgomery-Graham, Kohut, Fisher, & Campbell, 2015; Morrison et al., 2006; Morrison et al., 2004). Popular media coverage of SEM typically frames the impact of its consumption as inherently negative, citing it as a cause of sex addiction and marital rifts (Lambert, Negash, Stillman, Olmstead, & Fincham, 2012), and a contributor to violence against women and the illegal sex trade industry (Montgomery-Graham et al., 2015). Likewise, these reports tend not to differentiate the distinct domains of self-esteem, presenting the impression that SEM consumption has long-lasting negative consequences (a symptom of global self-esteem) rather than transitory negative consequences (a symptom of state-specific self-esteem; Hare, Gahagan, Jackson, & Steenbeek, 2015; Peter & Valkenburg, 2014). However, contrary to the belief that SEM has a fundamentally negative impact on its consumers, current literature on the effects of SEM remains mixed.

Some research indicates little negative impact of SEM consumption, despite opposition to widespread distribution and access of SEM (Hald & Malamuth, 2008; Luder et al., 2011; Montgomery-Graham et al., 2015). If anything, exposure to SEM has been found to have a *positive* effect on people's lives in various ways (Hald & Malamuth, 2008; Hare et al., 2015). Several studies examining SEM consumption in young adults have reported increases in sexual knowledge, healthier sexual attitudes, the discovery of sexual preferences, and an overall more positive quality of life relative to nonconsumers (Hald & Malamuth, 2008; Hesse & Pedersen, 2017; Lundin-Kvalem et al., 2014; Sabina et al., 2008). In addition, due to the anonymity that SEM accessed via the Internet affords consumers, it has also been found to play a positive role for sexual minority adolescents and young adults coming to terms with nonnormative sexual desires, genders, or orientations (Hare et al., 2015; Luder et al., 2011).

Interestingly, research indicating a negative effect of SEM consumption has been found in male consumers, but not in female consumers. A study by Peter and Valkenburg (2014) found that consumption of SEM had little to no effect on female consumers but did result in a decrease in overall body satisfaction in males. These results were also found in a study by Cranney (2015), wherein female consumers reported no correlation in body satisfaction (specifically, breast size) with SEM consumption, but men reported lower levels of penis size satisfaction. A study by Tylka (2014) found SEM consumption to be negatively correlated with muscularity and body fat satisfaction, as well as negatively correlated with general body appreciation. Another study specifically examining gay and bisexual men also indicated a negative correlation between increased SEM consumption and body satisfaction (Whitfield, Rendina, Grov, & Parsons, 2017).

Thus, patterns in the literature suggest negative effects of SEM exposure on the body esteem of male consumers only, despite women typically being perceived as principally vulnerable to negative impacts on self-esteem (Esnaola, Rodríguez, & Goñi, 2010; Graff et al., 2013; Hatton & Trautner, 2011; Hendriks, 2002; Schneider et al., 2013). It is possible that this trend reflects an exposure effect; with women exploited and sexualized in media and SEM more frequently than men—and over a much longer period of time—perhaps we have become desensitized to its influence.

Purpose of the Current Study

In consideration of the prevailing societal belief that exposure to SEM has a negative impact on the self-esteem of consumers (Montgomery-Graham et al., 2015), the purpose of this study was to examine whether SEM exposure influences state self-esteem relative to traditional media advertisement exposure, as well as to further investigate whether SEM consumption negatively affects men, but not women. Building on correlational studies conducted by Morrison et al. (2004), Morrison et al. (2006), and Peter and Valkenburg (2014), we explored the influence of both media advertisement exposure and SEM exposure on the body-specific self-esteem and genital-specific self-esteem of participants. Given that previous research has largely relied on self-report measures of SEM consumption, this study is among the first to utilize an experimental design to directly investigate how satisfied participants felt about the appearance of their bodies generally, and their genitalia specifically, relative to participants exposed to either a media image or no image condition.

Table 1. Distribution of Demographic Characteristics by Gender.

	Males $n = 118$ $M_{age} = 27.26$ $SD = 9.02$	Females $n = 181$ $M_{age} = 23.90$ $SD = 6.60$
Sexual orientation		
Straight	95 (79.8%)	146 (80.7%)
Gay	8 (6.7%)	8 (4.4%)
Bisexual	12 (10.1%)	26 (14.4%)
Queer/questioning	3 (2.5%)	1 (0.6%)
Ethnicity		
Caucasian	87 (73.1%)	109 (60.2%)
Indian	11 (9.2%)	31 (17.1%)
Asian/Pacific Islander	11 (9.2%)	18 (9.9%)
Black/African American	2 (1.7%)	5 (2.8%)
Hispanic/Latin American	2 (1.7%)	4 (2.2%)
First Nations	1 (0.8%)	1 (0.6%)
Not specified	5 (4.2%)	13 (7.2%)
Education		
Some high school	4 (3.4%)	1 (0.6%)
Completed high school	17 (14.3%)	30 (16.6%)
Some college/university	46 (38.7%)	95 (52.5%)
Completed college/university	38 (32.0%)	46 (25.4%)
Advanced degree	14 (11.8%)	9 (5.0%)
Relationship status		
Single	43 (36.1%)	70 (38.7%)
Casually dating	9 (7.6%)	14 (7.7%)
Committed relationship	43 (36.1%)	70 (38.7%)
Married/civil union	23 (19.3%)	25 (13.8%)
Divorced	1 (0.8%)	2 (1.1%)

Based on previous research conducted under the zeitgeist of SEM consumption having a negative impact, we proposed several hypotheses. First, we expected that male participants in the no-imagery control condition would report the highest levels of state-specific body and genital self-esteem overall, with male participants exposed to mainstream media images reporting lower levels than the control condition and participants exposed to sexually explicit images reporting the lowest levels. We hypothesized a similar trend for female participants, but also expected that females would report lower levels of general self-esteem relative to their male counterparts, regardless of condition, based on previous findings that women generally report lower levels of self-esteem relative to men overall (Esnaola et al., 2010; Schneider et al., 2013).

Method

Participants and Recruitment

The study was conducted online using the survey software Qualtrics. Participants were recruited primarily through the research participant pool of a large Western Canadian university. Online websites such as Twitter, Facebook, and Reddit were also utilized for recruitment of nonstudents via snowball sampling methods. The sample comprised 299 participants ($n = 181$ females, $n = 118$ males), with ages ranging from 18 to 63 years ($M = 25.22$, $SD = 7.79$). Demographic information of participants by gender is found in Table 1.

Research Design

This study involved a 2 (participant gender) × 3 (image exposure: none, media, SEM) randomized quasi-experimental design. Participants randomly assigned to the control condition were not exposed to any imagery. Participants randomly assigned to the media condition viewed 20 gender-balanced images selected from mainstream media advertisements. Finally, participants randomly assigned to the SEM condition viewed 20 fully nude, gender-balanced, pornographic actor profile images.

We elected to include three image exposure conditions for several reasons. First, a control condition establishes a baseline level of global and state-specific self-esteem. We included two treatment conditions—media and SEM—to examine whether there would be a difference in reported

state self-esteem between these two experimental conditions. Given that research examining exposure to media images has been documented as negatively influencing self-esteem generally (Agliata, Tantleff-Dunn, 2004; Guðnadóttir & Garðarsdóttir, 2014; McCabe et al., 2007; Morrison et al., 2006; Morrison et al., 2004), we were curious whether SEM exposure would affect participant state-specific self-esteem in particular, as the explicitly nude—and grossly unrepresentative of the general population—content in SEM is not seen in mainstream media advertising.

Measures

Demographic information. Six questions asked basic demographic information of participants including age, gender, sexual orientation, ethnicity, relationship status, and highest level of completed education.

Rosenberg Self-Esteem Scale (SES). The SES consists of 10 items and assesses global self-esteem by measuring personal self-worth and self-acceptance (e.g., "I feel that I have a number of good qualities") (Rosenberg, 1965). Items are scored using a Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Higher scores reflect a higher degree of global self-esteem. Validity of the scale has been established in previous research and acceptable psychometric properties have been reported, with coefficient alphas ranging from .72 to .88 (Gray-Little, Williams, & Hancock, 1997; Robins, Hendin, & Trzesniewski, 2001). In the current study, a strong coefficient alpha of $\alpha = .90$ was established.

Body Exposure During Sexual Activities Questionnaire (BESAQ). The BESAQ consists of 28 items that assess any self-conscious or anxious feelings about exposing one's body to a potential sexual partner. Thus, the BESAQ is a measurement of state-specific self-esteem regarding feelings about one's body in a sexual context (Cash, Maikkula, & Yamamiya, 2004). For instance, items include questions such as "When we're having sex, I worry that my partner will find my body repulsive" and "During sex I worry that my partner will find aspects of my physique unappealing." Responses are scored on a 5-point Likert-type scale, with individual item scores ranging from 1 (*never*) to 5 (*always*). The BESAQ is a negative scale, wherein higher scores represent higher body dissatisfaction. To make this measure consistent with other dependent variables used in our analyses, and for ease of interpretation, the BESAQ was reverse coded so that higher scores indicate higher body satisfaction (i.e., positive body-specific state self-esteem). Previous research on the BESAQ indicates strong internal consistency reliability, with alphas ranging from .95 to .96 (Cash et al., 2004). In the current study, a very strong coefficient alpha of $\alpha = .96$ was established.

Genital Esteem Scale (GES). The GES consists of two unique subscales, tailored to each gender: The 12-item female genital esteem subscale (FGES) and the 14-item male genital esteem subscale (MGES; Winter, 1989). Each subscale assesses feelings about the appearance of genitalia with specificity to each of its different components. Thus, the GES assesses state-specific self-esteem regarding feelings specifically about the appearance of one's genitalia. For instance, one question on the MGES asks participants to evaluate their satisfaction with the size of their erect penis, whereas one on the FGES asks participants to evaluate their satisfaction with the size of their labia minora. Responses are scored on a 5-point Likert-type scale, with responses ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*). Higher scores reflect higher satisfaction with one's genital appearance (i.e., positive genital-specific state self-esteem). In the current study, strong coefficient alphas of $\alpha = .91$ were attained for both the FGES and the MGES.

Materials

A total of 40 images were obtained from the Google search engine and from the popular pornographic website Pornhub. Twenty images were used in the media condition and 20 images were used in the SEM condition. In both experimental conditions, the images were gender balanced (10 males and 10 females) and all 40 images depicted a lone model. The control condition showed no images.

Media images obtained via Google included standard advertisements from magazines, websites, and TV commercials. The images were selected for their sex appeal and overall attractiveness, but all models were clothed. Sexually explicit images were selected from among those displayed on pornographic actor/actress profiles via pornhub.com. These images were selected for depicting archetypal pornographic body ideals (large penises, large breasts, hairless genitals, etc.) and all actors in these images were completely nude and graphically exposing their respective genitalia. All images were specifically selected to depict actors of various ethnic backgrounds (Caucasian, Asian, African American) in solo, forward-facing, full-body photographs selected for their youth (between the ages of 18 and 30 years) and respective body ideals: Fit, muscular body types in the men, and large hip-to-waist ratios for the women. All images were assessed for their ability to meet their respective criteria by an independent evaluator to ensure two-party agreement on various aspects that comprised the societally ideal standard of each gender's form; the size of breasts, areolas, vulvas, and erect penises in the SEM condition and the overall sex appeal and attractiveness in the mainstream media condition.

Procedure

Upon completion of consent to participate and collection of demographic information, participants were randomly

Table 2. Body Satisfaction Scores by Gender and Condition.

	Males (n = 118)	Females (n = 181)
Sexually explicit material exposure	3.71 (.08)	3.53 (.06)
Media exposure	4.04 (.08)	3.71 (.06)
No exposure	4.00 (.07)	3.53 (.06)

Note. BESAQ scores range from 1 to 5, with higher scores reflecting greater body satisfaction. Means are adjusted for the effect of the covariate. Standard errors appear in parentheses. BESAQ = Body Exposure During Sexual Activities Questionnaire.

assigned by Qualtrics software to one of three conditions. Control condition participants proceeded immediately to the three questionnaires in the order of SES, BESAQ, and FGES/MGES, without exposure to any imagery. Media condition participants were exposed to the 20 gender-balanced media images—presented on-screen for 5 s in a randomized order—and were then directed to complete the three dependent measures (in equivalent order as control condition participants). SEM condition participants were exposed to the 20 gender-balanced SEM images—also presented on-screen for 5 s in a randomized order—and then completed the dependent measures, also in equivalent order. Upon completion of the study, all participants were debriefed and thanked for their participation.

Results

Given that global self-esteem is a stable trait not expected to vary with exposure to experimental conditions (Kuster & Orth, 2013; Trzesniewski et al., 2013)—and evidence of multicollinearity between participant global and state-specific self-esteem scores (Table 4)—global self-esteem was controlled for in all applicable analyses. In factorial analyses, statistically significant main effects were followed by a univariate analysis for each factor, with a Bonferroni correction on the dependent variable (Field, 2013; Tabachnick & Fidell, 2019). Assumptions of homogeneity, normality, and independence of residuals were all met.

Analyses of Condition and Gender Effects on Body Satisfaction

A two-way analysis of covariance was conducted to examine condition and gender effects on the dependent variable of overall body satisfaction. The genital esteem scale was not included in this analysis due to its gender specificity, which would inaccurately render missing data for the other gender on each scale.

After adjusting for global self-esteem, a statistically significant main effect of gender was revealed, $F(1, 293) = 50.75$, $p < .001$, $\eta_p^2 = .15$. There was also a significant main effect of condition, $F(2, 293) = 2.60$, $p < .05$, $\eta_p^2 = .02$, and a significant gender by condition interaction, $F(2, 293) = 4.21$, $p < .05$, $\eta_p^2 = .03$. This higher order effect indicated that the effect of SEM exposure on body satisfaction was different for male participants than for females. Although females reported lower scores across conditions in body satisfaction overall relative to their male counterparts, simple effects analyses revealed significant differences *only for men* in each of the SEM exposure, $F(1, 294) = 7.03$, $p < .01$, media exposure, $F(1, 294) = 31.03$, $p < .001$, and no exposure conditions, $F(1, 294) = 22.62$, $p < .001$. Table 2 presents adjusted means and standard errors for each gender by condition.

Analysis of Condition Effects on Genital Esteem

Separate one-way univariate analyses of covariance were conducted to examine condition effects for the gender-specific genital esteem scales. After controlling for global self-esteem, a statistically significant effect of condition was found for the MGES only, $F(2, 115) = 2.81$, $p < .05$, $\eta_p^2 = .05$, with males in the SEM exposure condition reporting the lowest levels of genital esteem relative to the no-imagery and media imagery conditions (see Table 3).

Discussion

To our knowledge, this is the first study to directly examine the effect of SEM exposure on state-specific self-esteem in comparison with media advertisements utilizing both genders in an experimental design. As hypothesized, men exposed to SEM reported statistically significant reduced satisfaction with the appearance of their genitalia compared with those who viewed media images or no images at all. Our results do suggest, then, that exposure to SEM has a negative impact on the state self-esteem of some male consumers, specifically about the size and appearance of their genitals, lending credence to theories of social comparison. Previous research on this topic has been largely based on self-report; our methodology explicitly exposed participants to SEM during data collection.

Our first set of hypotheses that male participants in the SEM condition would report the lowest state self-esteem scores relative to both media and control conditions—and that participants in the mainstream media condition would report lower scores relative to the no-imagery condition—was supported. Our hypothesized downward trend was not found for women however, as only men reported

Table 3. Genital Esteem Scores by Image Exposure Condition.

Scale	Image exposure condition	*M*	*SE*
Male genital esteem subscale	None	3.57	.07
	Media	3.57	.09
	SEM	3.33	.09
Female genital esteem subscale	None	3.30	.09
	Media	3.31	.09
	SEM	3.29	.09

Note. Scales range from 1 to 5, with higher scores reflecting greater satisfaction with genital appearance. Means are adjusted for the effect of the covariate. SEM = sexually explicit material.

Table 4. Correlations Among Dependent and Covariate Variables.

Measures	1	2	3
Body esteem	—	.43**	.56**
Genital esteem	.57**	—	.35**
Global esteem	.54**	.50**	—

Note. Men are represented in the lower portion of the table.
**$p \leq .001$.

significantly lower levels of overall body satisfaction and genitalia appearance satisfaction in response to SEM exposure. Although effect sizes were small, these results provide further evidence that SEM imagery exposure can negatively affect men's perception of their bodies and genitalia—a change in state-specific self-esteem—and are consistent with previous research (Cranney, 2015; Peter & Valkenburg, 2014). Indeed, some researchers suggest that body image of men is distinct from that of women in that it focuses more on performance and function, rather than aesthetic appearance (Grogan, 2008; Lundin-Kvalem et al., 2014). In the context of heterosexual SEM—where a man is typically "performing" relative to a submissive and passive woman—one might expect genital-specific self-esteem to have an influence on men. Furthermore, previous research has reported a relationship between state self-esteem and masculinity in that the more "masculine" the traits men were primed to reflect upon in themselves, the greater their reported levels of state self-esteem (Wong et al., 2015). The popular media—including sexually explicit movies, magazines, and websites—frequently emphasize the connection between penis size and masculinity and reinforce the message that "bigger is better" (Lever et al., 2006). If a man's genital-specific self-esteem is threatened by the images presented in SEM, the foundation upon which his masculinity is built may well be vulnerable—and thereby susceptible—to negative impact, indicating that the size and appearance of genitalia is tied with perceptions of overall manliness. Despite most men likely being aware that the bodies and penises depicted in SEM are disproportionate and atypically large (Hesse & Pedersen, 2017; Lever et al., 2006), these results suggest that even brief exposure to such imagery may cause men to feel dissatisfaction both with their bodies and the size of their own penis.

Our second hypothesis that women would report lower overall scores of state-specific self-esteem relative to males regardless of exposure condition was also supported, supporting the findings of previous research that women report lower levels of body and genital satisfaction across all phases of life (Esnaola et al., 2010; Schneider et al., 2013). However, our findings failed to reveal significant differences in state self-esteem across exposure conditions for women, a curious finding that might be explained by evidence indicating that although exposure to sexualized advertisements has increased over time for both genders (Graff et al., 2013), it is women who are most often sexually objectified in all forms of media (Graff et al., 2013; Hatton & Trautner, 2011). Perhaps exposure to highly sexualized, female-focused media has become too commonplace to produce a remarkable effect of condition on state self-esteem in women. Or perhaps the development of body dissatisfaction and lower levels of genital self-esteem in women is simply the expected consequence of long-standing sexual exploitation.

This study is not without its limitations. For one, the data were collected online—a methodology that has both advantages and disadvantages—and for sexuality research an approach that presents a unique set of circumstances that are noteworthy. A narrative review of ethical considerations in sexuality research conducted in 2018 (Shirmohammadi, Kohan, Shamsi-Gooshki, & Shahriari, 2018) indicated some notable concerns for research conducted in online formats, including the collection and storage of sensitive data, the maintenance of privacy and confidentiality, the anonymity of both participant and researcher (if included as

part of consent), and the potentiality of including vulnerable participants. In our opinion, however, the positive benefits of online research outweigh these factors. Offering a research platform that eliminates the need for traditional, face-to-face data collection enables the recruitment of participants too uncomfortable to discuss sensitive information in a public setting. The anonymity that online research provides also encourages a safe, open environment where participants may be more willing to divulge sensitive information, of importance in this study considering the graphic and wholly personal nature of the data collected.

Despite the anonymity that comes with online research, however, the intrusive nature of human sexuality research in general—especially that which asks sensitive questions about one's genitalia—may still have led some participants to fabricate socially or personally desirable responses (Tourangeau & Yan, 2007). In addition, recruitment advertisements made it clear that participants would be asked questions about SEM. It is possible that participants comfortable and interested enough to engage in a human sexuality research study have distinctly different characteristics from those who elect not to participate, including less conservative attitudes, less religiosity, and more diverse sexual experiences (Dunne et al., 1997; Strassberg & Lowe, 1995). Thus, caution must be exercised when generalizing these results to the population, as a volunteer bias may have been present.

Furthermore, because we evaluated the immediate influence that exposure to SEM has on state-specific self-esteem, we chose not to inquire about participants' previous sexual history, sexual education, religiosity, or SEM consumption rates. It has been proposed that those with robust sexual histories, a thorough education in this subject matter, or those entirely lacking exposure to SEM content may not be as heavily influenced by the material presented in this study (Hald, 2006; Morrison et al., 2006; Morrison et al., 2004). Because we were interested in the effect of direct consumption of SEM on state self-esteem of consumers, we did not ask participants to disclose their personal SEM consumption rates for two reasons. First, there is ample evidence supporting the accessibility and high rates of consumption of SEM in our technology-based society (Hare et al., 2014; Mattebo et al., 2012; Owens et al., 2012), suggesting that participants had already been exposed to SEM on the Internet, whether intentionally or not. Second, given our experimental design, we were primarily interested in whether immediate exposure to SEM would have a direct causal effect on state-specific self-esteem. Our findings seem to suggest that it does—despite previous SEM consumption history. Nonetheless, it is certainly possible that frequency of consumption—and not direct exposure—influences state self-esteem and therefore, it is a variable of note for future research.

Similarly, participants were not asked to report their religious beliefs which—depending on the nature and fundamentalism of such beliefs—may have influenced participant state self-esteem, especially for participants randomized to the SEM exposure condition. Although we could reasonably argue that self-selection bias eliminated participants whose religiosity opposes viewing SEM, future researchers should nonetheless examine how religious beliefs interact with SEM exposure and self-esteem.

In addition, it should be noted that SEM comes in many forms. When SEM is sought online, it is not typically in the form of images, but rather in live action format (Hald, 2006; Hald & Malamuth, 2008; Pornhub, 2018). For the purposes of this study, however, we maintained exact mediums—utilizing still images in our experimental conditions. Future researchers should therefore aim to incorporate live video footage to better simulate typical SEM consumption conditions.

Study Implications

Results from this study suggest that consumption of SEM has a negative impact on how men regard the size and appearance of their genitalia. Although effect sizes were small, this study suggests that SEM exposure negatively affected the overall body satisfaction and genital state self-esteem of our male participants—contributing to a burgeoning understanding of the influence of SEM consumption on state-specific self-esteem. This research provides a platform upon which to build future research, as we are not yet fully cognizant of the effect—if any—that easy accessibility to SEM has on the body expectations and body ideals of consumers (Flood, 2009). We therefore encourage more research on this topic. The results of this study also suggest, however, that the influence of SEM on state self-esteem is perhaps less ubiquitous than SEM opponents claim—with no similar significant effect found among women.

It should also be noted that there is currently a lack of comprehensive sexuality education in Western schools, particularly in the United States (Stanger-Hall & Hall, 2011); it is not yet known whether or how self-esteem and sexuality-related expectations are influenced, should youth continue to turn to SEM as an educational resource (Hare et al., 2015; Luder et al., 2011; Sabina et al., 2008). Due to growing evidence regarding the young age at which adolescents, particularly boys, voluntarily expose themselves to SEM (Leahy, 2009; Sabina et al., 2008), it is prudent that youth and emerging adults receive thorough sexual health and media literacy education if they are to understand that the images seen in media—including SEM—are but a small representation of normal human body variations. If the results from this study are to be taken seriously, and SEM consumption is negatively affecting how male consumers feel about the size and appearance of their genitalia, then this further encourages a more expansive education into this topic to help mitigate this negative effect, particularly among youth, who access SEM during peak ages of their sexual development (Hald & Malamuth, 2008; Hare et al., 2014; Leahy, 2009; Ybarra & Mitchell, 2005). Perhaps with access to more expansive education regarding SEM and its variable depictions of the

human body, any negative effects of SEM may be better mediated and its positive effects may be enjoyed more fruitfully by its consumers.

Future research can extend these findings in numerous ways. First, future researchers should include adolescent participants in their samples. Current researchers of the influence of SEM are most concerned with its effects on youth, who are accessing such materials at presumably critical ages in their pubertal and sexual development. The current study only utilized participants aged 18 years and over. As previously noted, SEM is most commonly consumed via video footage; thus, future studies should incorporate a more representative medium upon which to measure exposure effects. In addition, this study examined the effect of direct, immediate exposure of SEM on state self-esteem. Future researchers should require participants to report their SEM consumption rates to determine whether the amount of exposure one consumes overall affects reported state self-esteem or to implement longitudinal or repeated-measures designs. Finally, future researchers may wish to incorporate pretest/posttest designs into their methodology—that is, to examine state-specific self-esteem prior to and following SEM exposure—to better observe the direct effect of its consumption.

The Internet continues to be a vital and much-used tool in today's modern culture; with an abundance of SEM so easily accessible, there is a growing societal concern that this may render many individuals vulnerable to unintentionally relying on the material they consume as normal depictions of male and female bodies (Hald, Kuyper, Adam, & Wit, 2013; Hare et al., 2015; Luder et al., 2011). Results from this study found that these concerns are at least partially valid—that is, men experienced significantly reduced levels of state self-esteem relating to body satisfaction and genitalia upon being exposed to SEM. However, exposure to SEM did not have a negative effect on the state self-esteem of female participants in this study. If the societally perceived negative effect of SEM exposure on state self-esteem in women is but conjecture, we hope that future researchers can build from our findings to examine other, possibly positive effects as reported in previous research (see Hald & Malamuth, 2008; Hare et al., 2015; Luder et al., 2011; Lundin-Kvalem et al., 2014) to combat the negative stigma currently associated with SEM (Montgomery-Graham et al., 2015).

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