



Pornography and Sexual Assault

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Sexual assault is defined as any sexual act that is nonconsensual, including sexual acts that occur with people who are unable to consent by virtue of age (e.g., a minor) or cognitive status (e.g., a person who is intoxicated or unconscious; a person who by virtue of a cognitive deficit is unable to consent) (U.S. Department of Justice, 2016). In its most extreme form, sexual assault includes forcible penetration or rape. However, nonconsensual sexual assaults do not necessarily involve physical contact between victim and perpetrator; for instance, exposing oneself to an unsuspecting person (“flashing”) or showing someone pornographic material when this is unwanted also meets the definition of sexual assault (Breiding, Basile, Smith, Black, & Mahendra, 2015). Approximately one in four women and one in nine men in the US have experienced some sort of unwanted sexual contact, although underreporting of assaults remains problematic (Breiding et al., 2015). Specifically, an estimated 32% of US women have experienced unwanted sexual attention, 28% experienced unwanted sexual contact, and 19% experienced forced or substance-use facilitated rape that included geni-

tal penetration (Smith et al., 2017). In men, the rates are 13% for unwanted sexual attention, 11% for unwanted sexual contact, and 1.5% for penetrative rape (Smith et al., 2017). Most sexual assaults are perpetrated by men and in approximately 80% of cases the perpetrator is known to the victim (Smith et al., 2017).

Understanding the causes of sexual assault requires a broad and multifaceted approach; singular explanations are insufficient (Ward, Fisher, & Beech, 2016). Causes can include: biological/genetic predispositions; adverse childhood experiences such as experiences of abuse and neglect; psychological traits such as a lack of empathy, attitudes supportive of violence, difficulties with emotion regulation, or interpersonal conflict; sociocultural factors such as gender role socialization, violence and conflict, and economic strain; and contextual factors such as provocation or alcohol or drug intoxication (Ward et al., 2016). To focus on any one factor runs the risk of ignoring the myriad other causes of sexual assault, and to potentially miss how these different factors interact. Nevertheless, this chapter concerns itself with how the viewing of pornography in particular relates to sexual assault through mechanisms such as shaping sociocultural norms about gender, shifting attitudes about sexual violence and objectification of women, and modeling aggressive sexual behavior. I begin by providing a definition of pornography and detail the scope of the industry, especially as it

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has moved increasingly to web-based dissemination. Next, theories that articulate why pornography might relate to sexual violence against women are presented. Evidence about the role pornography may play in sexual assault is reviewed according to three primary methods of scientific investigation: laboratory studies, surveys, and crime statistics. I end with some suggestions for additional research to address key gaps in the literature.

What is Pornography?

Pornography is often defined as sexually explicit material that is designed to arouse the viewer/user (Ferguson & Hartley, 2009; Hald, Malamuth, & Yuen, 2010). Since the late 1800s, the US has regulated the distribution of materials considered “obscene” (*Act for the Suppression of Trade in, and Circulation of, Obscene Literature and Articles of Immoral Use; 17 Stat. 598, 1873*). This act was first challenged when, in 1957, the US Supreme Court heard arguments for two cases, both challenging whether the obscenity act was a violation of the right to free speech, guaranteed under the US constitution’s First Amendment (*Roth vs. US; Alberts vs. California*). Although the Supreme Court ruled obscene materials were not protected under the First Amendment, its decisions redefined obscene materials as those that violated contemporary community standards and whose primary aim or theme was to arouse excessive sexual interests. Defining pornography therefore became a matter of its normative content and its primary purpose, but both of these components have remained difficult to quantify in a reliable manner (Gould, 2010).

While the content of pornography is highly variable, mainstream pornography that is marketed towards heterosexual male viewers tends to follow a rather predictable pattern (Tarrant, 2016). The focus of the medium (initially print materials such as books and magazines, then video home system or VHS, and increasingly now digital videos available on the internet) is on the male gaze and male sexual pleasure. For instance, many films are shot using “point of

view” (or POV), a pornography film style that attempts to place the viewer into the scene as though he or she were a camera person or main character; most POV pornography is shot from the male actor’s perspective (Bakonyi, 2012). The videos often open directly onto a scene with two (or more) people naked or nearly naked and quickly progress to include oral sex, anal sex, vaginal sex, and end with male ejaculation. Female pleasure is not the primary focus, although verbally female performers spend much of the video time expressing pleasure at every touch and position. Consent is rarely depicted explicitly—although this is often also true in nonpornographic films (Jozkowski, Rhoads, Canan, & Hunt, 2016)—and discussions of safe sex or expressions of affection are infrequent (Bridges et al., 2010; Willis, Canan, Jozkowski, & Bridges, 2018). Women tend to meet traditional standards of beauty and much of mainstream pornography may include elements of subtle or overt racism and sexism, such as depicting Black actors as lower status and greater instance of aggressive behavior in cross-race scenes compared to same-race scenes (Bridges et al., 2010; Cowan, & Campbell, 1994; Klaassen & Peter, 2015). Despite these undertones of racism, over time Black Americans are more likely to view pornography than Whites and their rate of use is increasing faster than any other racial demographic group (Perry & Schleifer, 2017).

Much of popular pornography depicts acts of aggression or degradation. For instance, a content analysis of 50 popular pornographic films from 2004 to 2005 found nearly 50% of scenes contained verbal aggression (mostly insults), 75% of scenes contained spanking, 54% of scenes depicted gagging, 37% showed hair pulling, and 27% showed choking (Bridges et al., 2010). Atkinson and Rodgers (2016) noted “insertion of objects, gagging and vomiting resulting from forceful oral sex, simulated rape, strangulation, anal sex and spitting have become merely choices from drop-down menus on many popular porn websites” (p. 1298). Furthermore, social networks may promote a sense of shared interest and normalization, which can result in a reduced perception of harm (Atkinson & Rodgers, 2016).

Despite the appearance of variety, the majority of internet pornography is being offered by a single corporation, MindGeek (Johnson, 2010; Tarrant, 2016). MindGeek owns and manages over 150 pornography websites, including popular sites such as Pornhub, RedTube, and YouPorn, as well as many pornography film production and distribution companies.

Pornography is big business, although precise revenue data are difficult to obtain. Some estimate the industry to generate between \$5–12 billion per year (for a review, see Tarrant, 2016). Internet piracy and the ease of availability of low- or no-cost pornography on the internet have resulted in significant declines in profits. Estimates are that in 2013, 78% of a mixed-gender sample of internet-using adults in the US had accessed a pornographic website (Tarrant, 2016). Users are more likely to be men, younger, and more highly educated (Buzzell, 2005). In a study of approximately 200 heterosexual couples, Bridges and Morokoff (2011) found 71% of men and 56% of women had viewed pornography at some point in the past year; the frequency of use among men and women was significantly different, with men on average accessing pornography once per week and women on average accessing pornography once per month. In another study of over 600 heterosexual couples, Poulsen, Busby, and Galovan (2013) found 36% of women and 73% of men reported any pornography use, with men's frequency of use greater than women's.

Three of the top 10 most trafficked websites are pornography sites (<https://www.similarweb.com>). During the first half of 2018, [xvideos.com](https://www.xvideos.com) ranked sixth highest in the US for web traffic (behind Google, Facebook, YouTube, Amazon, and Yahoo), with an estimated 3.07 billion visits. Pornhub, another popular website, reported that in 2017, over 81 million people per day visited their website (the majority of these visitors were located in the US; <https://www.pornhub.com/insights/2017-year-in-review>). A great deal of the content on Pornhub is provided by users themselves who upload homemade videos to the website. In 2017, Pornhub reported their users and content partners provided over four million por-

nographic videos to the website, approximately 20% of which they considered “amateur” videos (those produced by individuals unassociated with a commercial organization). The top five search terms on Pornhub by US users in 2017 were lesbian, MILF (moms I'd like to f***), step sister, ebony, and step mom. The growth of the mobile phone industry is reflected in statistics detailing how pornography is accessed: in 2008, 99% of Pornhub users accessed pornography through their desktop computers and only 1% through mobile devices. One decade later, 75% of Pornhub users accessed the website through mobile devices (<https://www.pornhub.com/insights/10-years>).

Historical Perspectives on Pornography's Effects

As technology enhanced its availability, an increased number of scholars and policy makers began asking what might be the effects of pornography use. The first Presidential Commission on Obscenity and Pornography (commonly referred to as the *Lockhart Commission*) was formed in 1967 to evaluate existing laws related to and recommend definitions of obscenity and pornography. Because little scientific work had been done in this area, they also commissioned two national surveys and some laboratory studies (Bates & Donnerstein, 1990). In its final report in 1970, the Lockhart Commission concluded benefits of existing laws regulating the sale and distribution of pornography lacked community consensus and were largely unsuccessful. They further suggested it was not the role of Congress to determine what adults should and should not read or view or to legislate morality, and recommended a lifting of restrictions. After the Lockhart Commission released its reports, many scholars noted a dearth of scientific research to inform questions of the effects of pornography access on the public (Gould, 2010). Academics therefore began exploring these questions in earnest.

Perhaps in part because of dissatisfaction with the recommendations made by the Lockhart

Commission, in 1985 President Reagan created a second Commission on Pornography (referred to as the *Meese Commission*) (Bates & Donnerstein, 1990). The Meese Commission was tasked with determining the nature, extent, and impact of pornography on society. The Meese Commission concluded there was a *causal* association between violent or degrading pornography and aggressive behaviors and attitudes. In contrast, the Commission was unable to reach consensus regarding whether nonviolent, nondegrading pornography was harmful. The Meese Commission, in particular, has been criticized for its biased methodology and selective inclusion of research (Bates & Donnerstein, 1990).

It is clear pornography has been part of human history for as long as humans have had the capacity to document sexuality (Tarrant, 2016), although recently the distribution has increased with technology to unprecedented levels. Since the early 1970s, there has been concern among scholars, lawmakers, and others about what role, if any, pornography may play in society's ills including violence against women. Most well-known are efforts to categorize pornography as "obscenity" (U.S. Attorney General's Commission on Pornography, 1986). Still in existence today, these obscenity laws make the possession, sale, and distribution via US postal service of some pornographic materials that might meet the legal definition of obscenity illegal, although they are rarely enforced and the context of enforcement has become increasingly narrow (Rowbottom, 2018). Taking a different tactic, Andrea Dworkin and Catherine MacKinnon drafted legislation in the 1980s for the city of Minneapolis that would classify pornography as a form of sex discrimination and a violation of women's civil rights. Although vetoed by the mayor, the city council reintroduced the ordinance, finding that "pornography is central in creating and maintaining the civil inequality of the sexes" and provides a "systematic practice of exploitation and subordination based on sex which differentially harms women" (Baldwin, 1984, p. 630). Other cities also passed the ordinance, but passages were vetoed by city mayors or overturned by US courts. More

recently, states such as Florida, Utah, and Kansas have declared pornography constitutes a public health risk, and others, such as Rhode Island, are considering the same, in part because of arguments suggesting viewing pornography can have negative impacts on the user and others.

Critiques of these efforts (obscenity laws, civil rights ordinances, or declarations of public health crises) have suggested these efforts are evidence of "moral panic" that is not rooted in the scientific literature (Klein, 2015). In fact, there has been and continues to be a group of scholars, clinicians, policy makers, and activists who highlight the benefits of pornography. For instance, Watson and Smith (2012) suggested pornography can decrease sexual anxiety, encourage sexual exploration, and increase personal well-being. Hald and Malamuth (2008) found people who used pornography reported being better sexual partners and more open-minded about sex. One study reported young adults saw pornography as empowering, especially feminist and sex-positive pornography that emphasized diversity, modeled sexual consent, and appeared more genuinely enjoyable to performers (Weinberg, Williams, Kleiner, & Irizarry, 2010). Lim, Carrotte, and Hellard (2015) note most of the studies highlighting the benefits of pornography use self-report and focus on perceived benefits and satisfaction; little laboratory work has been done.

Theories Relating Pornography Use to Sexual Assault

Why might people believe pornography use is linked to sexual assault? The question is part of a larger academic effort to understand possible links between consumption of media and behavior (Ferguson & Hartley, 2009). On the one hand, some have argued pornography *reduces* sexual violence because it offers users, primarily men, an outlet to "vent" their sexual urges (Kendall, 2007; Posner, 1994), or have discussed pornography access is associated with greater freedoms (such as free speech) and gender equality, making it a marker of a more open, liberal society that is associated with reduced violence against

women (Baron, 1990). On the other hand, some have argued pornography is associated with greater aggression, include sexual assault. These theories range from relatively straightforward (e.g., social modeling) to more complex (e.g., socioecological models). These diverse perspectives are reviewed below.

Theories positing a negative association between pornography and sexual assault. Outlet theories that pornography use provides a substitute for sexual assault rest on an assumption of rational decision-making (Posner, 1994). According to these theories, the biological drive to procreate can be met in multiple ways. Ideally, this drive is met by engaging in consenting sexual relations with a willing partner. However, when this option is not available, people will seek other means of meeting this biological need. In deciding which alternative means a person might pursue, he or she weighs the relative costs and benefits of each option. If the costs of some approaches are low (e.g., viewing pornography and masturbating, which is not illegal and can be typically accessed for free) compared to other approaches (e.g., sexually assaulting someone who is not consenting, which is illegal and has the potential to result in significant financial, personal, and environmental costs), then the person will rationally select the lowest cost option. It stands to reason, then, that decriminalizing pornography and increasing its ease of access would reduce rates of sexual assault (D’Amato, 2006).

A second group of theories argues for a negative relation between pornography access and sexual assault. These theories focus on the relative freedoms people within a society have. Societies with greater freedoms, including free access to sexually explicit material, also tend to be more liberal regarding gender roles and sexual behavior, show greater gender equality, and lower rates of sexual assault (Baron, 1990). Proponents of these theories also focus on how representations of sexuality, especially diverse sexualities of marginalized populations such as people who identify as queer or transgender, have typically been criminalized and maintain power imbalances disfavoring repressed groups (Stardust, 2014). Accordingly, greater access to pornogra-

phy is seen as both a marker of and perhaps even a causal contributor to greater freedoms and equality. Some pornographers have argued for the value of feminist pornography, in particular, as a way to upend traditional gender roles and increase gender equality (Lieberman, 2015).

Theories positing a positive association between pornography and sexual assault. The major theories that have suggested pornography is positively associated with sexual aggression, including sexual assault, rely on social learning theory (Bandura, 1978) and its derivations, feminist theories, and individual differences/risk theories. Social learning theory (Bandura, 1978) states people can and do learn how to behave by watching models. According to this theory, pornography users learn sexual and aggressive behaviors from the materials they watch and, particularly when those behaviors are rewarded, are then more likely to do the same things in their own lives when faced with a similar situation. Bandura (1978) emphasized the difference between learning that could happen as a result of modeling through media (*acquisition*) and the subsequent demonstration of that learning through action (*application*). Learning is broadly construed and may involve learning new sexual behaviors or positions, facilitating already learned manners of behaving sexually, or decreasing inhibitions of previous learning about socially acceptable and unacceptable forms of behavior (Check & Malamuth, 1986).

More updated versions of social learning theory include sexual scripts theory (Simon & Gagnon, 1986) and the 3 AM model (Wright, 2011). Both theories argue pornography is used as one source for learning about sexual behavior—it provides a “script,” much like a script an actor in a play might use, for how to behave during a sexual encounter. When faced with a situation that might entail sexual behavior, the user relies on the pornographic script to guide their actions. However, acquiring scripts for sexual behavior does not necessarily mean they will be acted upon—the person has to be in a situation they see as one that matches the script and then apply it to their behavior. As an analogy, people may have some idea about how a soldier might

behave in a wartime situation, but lacking an environment that mimics that situation, they would never act in that manner (Check & Malamuth, 1986). Given how often popular pornography includes acts of mild aggression (Bridges et al., 2010, as reviewed above) and lacks modeling of consent or even context to determine implicit consent (Willis et al., 2018), greater consumption of pornography is theorized to result in greater sexual aggression. Indeed, studies of sex offenders find they have greater physiological responses to depictions of explicit sexual assaults than do non-offenders (Abel, Barlow, Blanchard, & Guild, 1977; Seto & Kuban, 1996). However, most pornography does not depict overt acts of sexual violence or rape (Bridges et al., 2010); it is illegal in many countries and most men do not become sexually aroused when rape is depicted as clearly abhorrent to the victim (Malamuth & Check, 1980), so simple modeling is unlikely to explain associations between pornography use and sexual assault.

Theories that have emphasized the role of cultural factors elevating the status of men over women are broadly considered feminist theories. Feminist theorists have argued that materials that objectify and degrade women, including many genres of pornography (Cowan & Campbell, 1994), contribute to a general cultural climate where aggression towards women is seen as the norm (see Baron & Straus, 1987). These theorists argue that such a climate, then, is one in which all forms of violence against women are more tolerated. Feminist theories focus more on how media consumption may shift attitudes supporting notions of women as sex objects, available for male pleasure, and reinforce cultural stereotypes about rape (such as the idea that “no” means “yes” and other rape myths; Lonsway & Fitzgerald, 1994; see also Wright & Tokunaga, 2016). Furthermore, some argue portrayals of women as sex objects may lead viewers to feel violence against women is not as egregious and need not require the same measure of punishment as other crimes (e.g., Mullin & Linz, 1995). Compared to social modeling theories, feminist theories are broader and do not suggest there are

necessarily direct links between pornography and sexual violence. Instead, pornography both reflects and creates a cultural climate in which violence against women is tolerated.

Malamuth et al. (1996) developed the confluence model to explain how individual differences relate to risk of sexual violence perpetration. The confluence model states that *for people already predisposed to act violently* (e.g., people high in hostile masculinity and with an impersonal sexual orientation), *pornography can elevate the risk of aggression*. Hostile masculinity is defined as having a domineering and distrustful view of women, while impersonal sexual orientation is defined as the ability to engage in sexual relations without intimacy or a sense of closeness (Baer, Kohut, & Fisher, 2015). The theory suggests that pornography can activate beliefs or stereotypes the person already possesses, thereby potentiating sexual violence. Importantly, the theory (and some research evidence, reviewed below) suggests pornography use does not have these potentiating effects in the absence of preexisting risk factors.

Reviewing the Research Evidence

What, then, is the evidence for an association between pornography and sexual assault? The rest of this chapter concerns itself with reviewing the evidence, providing additional data from 2016 statistics, and suggesting priorities for addressing remaining questions. The studies are divided into three general types: laboratory, correlational, and sociological. Each type has certain strengths and weaknesses (Table 8.1); in combination, they can inform the question of whether, and how, pornography might relate to sexual assault.

Evidence from Laboratory Studies

Laboratory studies represent the most rigorous scientific approaches to measuring how one variable may *cause* something- in fact, it is the only method that can prove causation. A typical

Table 8.1 Types of research studies

Study type	Example	Strengths	Weaknesses
Laboratory	Bring a group of participants into the lab, one at a time Randomly assign participants to either view pornography or view neutral media Measure participants on some outcome, such as willingness to convict a perpetrator of rape	Ability to isolate the effects of an independent variable and measure its impact on a dependent variable Only study design able to discern cause/effect relationships	Low external validity (since you cannot measure actual sexual assault perpetration, researchers must use proxy variables that may not translate well to the real world) Limited sample characteristics (mostly college-aged males)
Correlational-cross-sectional	Give a group of people questionnaires that assess pornography use and sexual assault perpetration attitudes and behaviors	Large samples can be representative of populations Allows more direct measure of the variables of interest	Self-report biases Lack of manipulation of the independent variable means you cannot draw cause–effect conclusions Third variable problem (are associations due to some third variable?) Since all data are collected at the same time point, no ability to discern if pornography use precedes, follows, or coincides with sexual assault attitudes and behaviors
Correlational-longitudinal	Give a group of people questionnaires that assess pornography use and sexual assault perpetration attitudes and behaviors At a later point in time, re-administer questionnaires	Large samples can be representative of populations Allows more direct measure of the variables of interest Allows for temporal ordering of variables (e.g., does pornography use come before or after attitudes and behaviors supportive of sexual assault?)	Self-report biases Lack of manipulation of the independent variable means you cannot draw cause–effect conclusions Third variable problem
Sociological-secondary analyses	Obtain large-scale data from existing sources at regional, state, national, or international levels (e.g., pornography distribution rates and crime statistics) Correlate the variables of interest Can compare across regions (e.g., in different countries) or across time (e.g., before and after passage of laws permitting sales of pornography)	Large data sets allow for strong tests of hypotheses No need to collect original data, so less expensive Allow for comparisons across cultures or subcultures and time	Data may not correspond precisely to variables of interest (e.g., may be difficult to obtain estimates of pornography use, or crime that is underreported) Lack of manipulation of the independent variable means you cannot draw cause–effect conclusions Third variable problem

laboratory study examining whether pornography *causes* aggression will include (1) random assignment of participants to experimental or control conditions, (2) manipulation of the independent variable (typically pornography exposure), (3) measurement of the dependent variable

(typically some measure of aggression), and (4) the use of statistical significance testing (and, ideally measures of effect size) to examine group differences. Studies examining how pornographic material affects sexual aggression are necessarily limited in how aggression can be measured. It is

not ethical, possible, or desirable to have participants actually harm another person, sexually or otherwise, so proxy variables must be used that are thought to index sexual aggression. For instance, some studies have operationalized sexual aggression by changes in self-reported attitudes (such as acceptance of rape myths; Donnerstein & Berkowitz, 1981), self-reported likelihood of willingness to rape if assured they would not be caught (Check, 1985), willingness to convict an accused sexual perpetrator in the context of a mock trial (Zillman & Bryant, 1982), adding hot sauce to someone's food (Fischer & Greitemeyer, 2006), or showing a person a dirty joke or picture they believe the person will find offensive (Nagayama Hall & Hirschman, 1994). In a review of laboratory paradigms to examine sexual aggression, Davis et al. (2014) summarize evidence of the reliability (i.e., consistency) and validity (i.e., theoretical associations and predictive power) of these analogues. Most lack information about reliability; however, the majority show evidence of theoretical associations with related concepts (and, importantly, lack of associations with theoretically unrelated concepts) and predictive power. With technological advances, some studies are now indexing sexually aggressive behavior using virtual reality (Abbey & Wegner, 2015) or instant messaging (Angelone, Mitchell, & Carola, 2009) with the hope this will expand the behavioral responses participants may exhibit in a lab and will provide greater external validity to real-world behavior. However, because these methods are just beginning to emerge, they have not yet been evaluated for their reliability or validity.

The earliest empirical study I could find examining pornography and aggression was conducted by Meyer in 1972. Forty-eight male college students participated in this experiment. Each participant arrived at the lab individually to participate in a study on grading using electrical shocks. The participant was given 5 min to write an essay on the importance of obtaining a college education, then told they would be graded on their essay by another participant (in reality, the other participant was a study confederate). The participant was then given a "bad" grade by the

confederate in the form of eight electric shocks (where a maximum was 10, and higher number of shocks meant a worse grade). This was done to provoke the participant into experiencing anger. After the shocks, it was the confederate's "turn" to write an essay which the participant would then grade. During the five-minute wait period in which the confederate was presumably writing their essay, most participants were shown a film that was ostensibly part of another study and would make "good use" of their five-minute wait time. The three types of film clips used in the study were (a) violent but not sexual (i.e., a knife fight), (b) sexually explicit (a scene described as hard-core pornographic from a "stag" film), or (c) exciting but not violent or sexual (a cowboy riding a half-broken horse). One-fourth of participants saw no film and served as the control condition. After viewing the film, participants were asked to grade the confederate's essay (in the form of assigning electric shocks). Meyer found participants in the violent film group gave the greatest number of shocks (average of 7.50 out of a possible 10). Participants in the sexually arousing (pornographic) film gave the second highest number of shocks (average of 6.00), while participants in the control (average of 4.67) and nonviolent, nonsexual film (average of 4.83) conditions gave the least number of shocks. The author concludes that sexual arousal from pornographic media can result in increased retaliatory aggressive behavior in subjects who had been previously provoked.

A more recent study by Hald and Malamuth (2015) of 201 Danish adults (100 men, 101 women) invited participants to attend a laboratory session where participants were randomly assigned to view either pornography or a neutral film and complete self-report measures of agreeableness and attitudes supporting violence against women (comprised of acceptance of interpersonal violence and acceptance of rape myths). The pornographic film included explicit depictions of oral sex, vaginal sex, anal sex, double penetration, and facial ejaculation. One scene was between one man and one woman, while another scene was between two men and one woman. None of the films depicted explicit

violence or degradation and both depicted actors signaling sexual pleasure. In the control condition, the participants viewed film scenes about nature. Participants were divided into groups based on their trait-level agreeableness. Analyses revealed no differences between the experimental and control groups on measures of attitudes supporting violence against women; however, for men classified as low in agreeableness, participants in the pornography film condition rated their attitudes supporting violence against women as significantly higher ($M = 43.66$, $SD = 10.49$) than low agreeableness men in the control condition ($M = 33.45$, $SD = 8.89$), a large effect.

A meta-analysis of 16 experimental studies found a significant effect of exposure to pornography in the lab and subsequent rape myth acceptance scores, $r = 0.15$ (Allen et al., 1995), which corresponds with a small effect size. These effects were present whether experiments compared control participants who viewed neutral films or no films to: (a) participants who viewed violent pornography ($r = 0.11$, 5 studies), or (b) participants who viewed nonviolent pornography ($r = 0.13$, 7 studies). Because the differences between these two effect sizes does not reflect a direct comparison of violent and nonviolent pornography, Allen et al. (1995) also calculated an average effect size for studies comparing participants who viewed violent to nonviolent pornography, finding that viewing violent pornography increased rape myth acceptance more than viewing nonviolent pornography ($r = 0.16$, 8 studies). In all cases, however, effect sizes for the association between pornography viewing and rape myth acceptance were small. In short, rigorous laboratory studies that are true experiments find small but significant effects of pornography use on aggression-supportive attitudes and behaviors.

Evidence from Correlational Studies

Cross sectional. Studies exploring pornography use with sexual assault perpetration (or proxy variables that are related to sexual assault perpetration, like attitudes supporting sexual violence,

rape myth acceptance, and willingness to intervene in a potentially assaultive situation as a witness) represent the bulk of research on this topic. It is helpful to note research suggests differing methods of assessing sexual aggression tend to be highly correlated with one another (average $r = 0.28$, range 0.03–0.62; Bouffard & Goodson, 2017). Cross-sectional studies involve surveying a group of people at one time period, asking about both pornography use and sexual assault variables, and then examining whether pornography use and sexual assault variables are correlated. Because the data are collected all at once, the ability to discern temporal ordering is impossible (meaning perhaps pornography use precedes later sexual violence, or perhaps people who engage in sexual assault later seek out pornography, or some third factor relates to both pornography use and sexual violence). Data are also typically collected using self-report, meaning participant responses are subject to biases such as socially desirable responding (answering questions in a way that would meet with societal approval) or recall biases (e.g., not being able to recall some events, or over-reporting other events if they were particularly salient). Nevertheless, these studies help inform the question of whether pornography use may relate to sexual assault potential.

Numerous studies have assessed whether pornography use is associated with attitudes supporting violence against women (Hald et al., 2010). These attitudes are typically captured with questionnaires that assess things like (a) condoning violence in interpersonal relationships (such as beliefs that sometimes men are justified in hitting their wives); (b) adversarial relationships between men and women (such as believing women take advantage of men); and (c) rape myths (such as the idea that women who dress provocatively are “asking” for rape, or that women initially refuse sex in order not to appear “easy,” even if they are sexually interested). A meta-analysis of nine studies ($N = 2309$ men) exploring the average correlation between pornography use and violence-supportive attitudes found a significant positive association, $r = 0.18$, $p < 0.001$ (Hald et al., 2010), a small effect. The

findings were strongest when correlating violent pornography use to violence-supportive attitudes ($r = 0.24$, $p < 0.001$) but remained significant even when exploring nonviolent pornography and sexual assault attitudes ($r = 0.13$, $p < 0.001$).

Some studies have examined how self-reported pornography use relates to self-reported likelihood of engaging in sexual assault or willingness to rape or sexually coerce someone if guaranteed not to get caught. Published research in this area generally finds a small but positive association between the two variables. For instance, Foubert, Brosi, and Bannon (2011) found small positive correlations between use of sadomasochist ($r = 0.17$) or rape pornography ($r = 0.19$) and self-reported behavioral intentions to sexually assault someone in a sample of 489 college men, all members of fraternities. In studies examining whether pornography use is associated with intervening in the context of witnessing a possible sexual assault, researchers again tend to find higher violent/degrading pornography use is associated with lower bystander behavioral intentions in men, but not women (Foubert & Bridges, 2017). Notably, use of non-violent sexually explicit pornography did not show the same association.

The most direct answer to the question of whether pornography use is associated with sexual assault can be gleaned by asking study participants about both pornography use and history of sexual assault perpetration. For instance, Stanley et al. (2016) conducted a survey of 4564 European adolescents. Participants completed the paper and pencil surveys in their schools. The surveys assessed, among other things, pornography use (did the participant regularly watch online pornography) and history of sexual coercion perpetration (had the participant ever pressured a partner into kissing, touching, or something else; had they ever pressured or physically forced someone into have sexual intercourse). The researchers found teens who regularly used pornography were twice as likely to report engaging in sexual coercion than teens who did not regularly use pornography, even after controlling for other variables (such as age,

academic achievement, and other sexual behaviors).

Although the bulk of studies examine male perpetrators, studies with women also find pornography use relates to sexual coercion perpetration (Kernsmith & Kernsmith, 2009). A meta-analysis of 17 studies cross-sectional studies of both men and women found a small-to-moderate significant association between pornography use and self-reported history of sexual aggression (both physical and verbal), $r = 0.28$, $p < 0.001$ (Wright, Tokunaga, & Kraus, 2016). Higher use of pornography was associated with higher self-reported sexual aggression and this association did not vary as a function of gender (men vs. women), age group (adolescents vs. adults), publication outlets (published vs. unpublished studies), or country (US vs. other countries).

Longitudinal. Longitudinal data exploring pornography use and sexual assault related variables are helpful to inform a temporal ordering of variables. While the literature reviewed above suggested associations between pornography use and variables related to sexual assault, these studies are unable to discern the extent to which one may precede the other in time. Critical to this inquiry is whether there is some self-selection bias— that is, whether people who already hold violence-supportive attitudes against women are more likely to seek media that comport to their preexisting beliefs or if exposure to media relates to subsequent changes in attitudes. Although longitudinal studies cannot confirm causality (does pornography *cause* sexual assault?), it can inform one of the preconditions of causality—ordering of variables in time. Something cannot *cause* something else if it happens *after* the thing it supposedly causes. Given how difficult it is to design good laboratory simulations of sexual aggression, longitudinal studies are important to answering the question of how pornography may influence sexual assault potential.

Peter and Valkenburg (2009) conducted a year-long, three-wave longitudinal study of 962 Dutch adolescents and young adults (aged 13–20 years). Participants completed survey

measures online at three time points that included questions about their use of pornography, their liking of pornography, and their views of women as sex objects (e.g., “Unconsciously, girls always want to be persuaded to have sex” and “There is nothing wrong with boys being primarily interested in a woman’s body”). Analyses revealed pornography use at time 1 was a significant predictor of viewing women as sex objects 1 year later for both boys and girls (standardized path coefficient = 0.15, $p < 0.01$), while viewing women as sex objects at time 1 was a significant predictor of greater pornography use 1 year later (standardized path coefficient = 0.09, $p < 0.01$), but for boys only. Furthermore, the link between time 1 pornography use and time 3 views of women as sex objects was partially mediated by increased liking for pornography. These results suggest while there is some truth that people select media that comports with their preexisting beliefs, media like pornography may also shape attitudes and beliefs.

Similar findings occur when examining adults. Using national representative samples of adults in the US, Wright and Funk (2014) conducted a longitudinal analysis using the General Social Survey, finding pornography use at time 1 is associated with lower support for policies such as affirmative action and equal rights for women at time 2 (standardized regression coefficient = 0.13, $p < 0.05$), and these associations are stronger than when using policy opposition at time 1 to predict pornography use at time 2 (odds ratio = 0.81, $p > 0.05$). In a meta-analysis of five studies examining the association between pornography use at time 1 and sexually aggressive behavior at time 2, Wright et al. (2016) find a correlation of $r = 0.27$, $p < 0.001$ (moderate effect size). In summary, longitudinal data in general support cross-sectional associations between pornography use and sexual aggression, and suggest the temporal ordering of these associations is such that pornography use precedes later aggression-supportive attitudes, beliefs, and behaviors. These effects were generally small to moderate in size and many held for both men and women.

Evidence from Sociological Secondary Data Studies

One final method researchers have utilized to investigate whether there is an association between pornography use and sexual assault is to examine existing population-based data sources that report on some pornography-related distribution or access variable (e.g., circulation rates of pornographic magazines, pornographic movie rentals, Google searches for terms like “porn,” access to high-speed internet, or changes in laws limiting access to pornography) and population-level crime statistics (rates of rape, sexual assault, or sex crimes). The strength of such studies is they provide a macro-level analysis of what happens to *communities* when pornography is more accessible. Limitations include the inability to tie *individual* use of pornography with sexual assault, the frequent need for proxy variables to assess pornography access since these sorts of records are not kept publicly, and the need to limit analyses to reported sexual assaults, a crime which is grossly underreported (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007). Nevertheless, their findings are informative.

On the whole, and in contrast to much of the experimental and correlational research, findings from population-based studies are more mixed and more likely to find no associations, or even a significant *negative* association, between pornography access and reported sexual assaults (for a review, see Ferguson & Hartley, 2009). For instance, Kutchinsky (1991) examined rates of rape and aggravated assault in four countries over a 20-year period, from 1964 to 1984. Three of the countries (Denmark, Sweden, West Germany) had legalized pornography while one (United States) had not, although pornography remained accessible in the US at that time. The author found rape rates remained stable and low in the three countries where pornography was legal, while rates over the 20-year span were rising dramatically in the US. When examining rates of rape versus rates of nonsexual assaults, Kutchinsky found the rates of both types of crimes increased similarly over time, which he

argues suggests the increases in rape are due to general increases in aggressive crime. In the other countries, while rates of aggravated assault were generally moderately increasing over the 20-year time period, rates of reported rape were not increasing or were increasing at a slower pace. The author argued this provides evidence that access to legal pornography does not increase incidents of rape. One important limitation of this study is that it did not measure actual access to pornography- the author assumed legalization equated to increased access and consumption, but also noted pornography was easily accessible in the US during that same time period. The author also suggests increased willingness to report crimes, including rape, may account for some of the changes. Furthermore, at the same time that pornography was decriminalized, many sexual behaviors were also decriminalized (such as same-sex prostitution and voyeurism; Check & Malamuth, 1986). Therefore, the decline in sex offenses may have been due to fewer behaviors meeting the definition of an offense. In fact, rape rates may have actually increased following legalization of pornography in Denmark (Check & Malamuth, 1986).

In six states in the US, Kimmel and Linders (1996) found correlations between circulation rates of nine pornographic magazines and rates of reported rape varied tremendously, from a large negative association (in Ohio, $r = -0.82$) to a moderate positive association (in Florida, $r = 0.30$). Rape rates in general were slowly rising in most states over the 11-year period of the study (1979–1989), but circulation rates of pornographic magazines were declining rapidly over that same time period, likely due to the advent of the home video player. That is, the index of pornography consumption was limited to magazine circulation rates at a time when people began moving away from magazines and towards video tapes as the preferred medium of pornography consumption. In Japan, a non-Western industrialized country with a rich history of producing violent pornography and *manga* (cartoon pornography), increased access to pornography over 20+ year period (from 1970s to 1990s) coincided with a decrease in reported rapes, murder,

and violent crimes, but a slight increase in sexual assaults (Diamond & Uchiyama, 1999). The authors conclude not only is pornography access not associated with an increase in sex crimes, but may actually *reduce* sex crimes by giving people a more appropriate outlet to meet sexual needs. (This argument, of course, presupposes sexual assaults are driven by sexual urges and not by a desire to dominate, aggress against, debase, or punish someone; Cowan & Quinton, 1997.) Similar lack of associations between rape and access to pornography have been reported in the Czech Republic (Diamond, Jozifkova, & Weiss, 2011) and in four US states that ceased to enforce obscenity statutes (Winick & Evans, 1996). Notable is that nearly all of these studies examined trends in sexual assault over time but did not provide quantitative measures of pornography consumption from which to then calculate correlations.

Others however have found the opposite relationship. For instance, Baron and Straus (1984) examined rape rates (as reported in the FBI Uniform Crime Reports) and magazine circulation rates for eight pornographic magazines (such as *Playboy* and *Hustler*; all soft-core, since none showed erect penises or penetrative sex) in US states, finding a strong positive correlation between magazine sales and rapes ($r = 0.63$, $p < 0.001$ for 1979 data, and $r = 0.58$ for 1980 data) that remained significant even after controlling for other variables that may relate to rape, such as poverty, race, male gender, and young adult age. Rape rates were strongly associated with other aspects of what Baron and Straus called a “macho culture” that included gender and economic inequality, a culture which may account for both increases in pornography consumption and crimes against women such as sexual assault. Scott and Schwalm (1988) found similar associations when examining rates of reported rape and circulation of 10 popular pornographic magazines in 1982, $r = 0.54$, $p < 0.05$. The association between pornography magazine circulation rates and reported sexual assaults remained significant even after controlling for numerous variables such as poverty, alcohol use, rurality, race, and gender inequality. Gentry

(1991), using standard metropolitan statistical areas as the unit of analysis (instead of states, which are largely heterogeneous in make-up), also found a positive correlation between rates of reported rapes and circulation of three popular pornographic magazines (from 1979 to 1981), $r = 0.25$, $p < 0.01$, but after controlling for variables such as the percentage of the population in that area that was between 18 and 34 years of age, the association between the two variables was no longer significant.

More recently, researchers have used internet access (and broadband access specifically) to index pornography use in communities. Since much of pornography is now accessed through the internet and involves downloading or streaming relatively large video files that require greater internet bandwidth and speed, these studies suggest technology advances that make such streaming less cumbersome are likely to relate to increased pornography use. Bhuller, Havnes, Leuven and Mogstad (2013) analyzed broadband access in Norway over a 10-year period and rates of diverse crime statistics, including rape and child sexual abuse. Unlike many other studies, Bhuller and colleagues included reports, criminal charges, and convictions to index criminal activity. They also collected potential control variables (see below). The authors found increased access to broadband internet was associated with increased sex crimes ($p < 0.05$). Specifically, the authors found that as internet user rates increased by 1 percentage point, the overall rate of sex crimes increased by 1.15 per 100,000 inhabitants. These results remained significant even after controlling for potential covariates including demographic characteristics (percent of population that is female, age, percent of population that is immigrant, population density, education, income, poverty, and unemployment; $p < 0.01$), police density, and rates of other crimes. In follow-up analyses, the authors determine facilitation of reporting was not responsible for the increased reporting of sex crimes (specifically, they found no changes in the ratio of reports of rape to charges of rape across the 10-year period of this study). However, in Germany these results failed to replicate (Nolte, 2017).

In the literature I reviewed, there was no pattern I could discern regarding whether a study was likely to show a positive (vs. no or negative) association between pornography access and reported sexual assaults. In studies that looked at historical data of rape rates (e.g., Diamond et al., 2011 reporting from 1970s to 2000s; Diamond & Uchiyama, 1999 reporting from 1970s to 1990s; Kutchinsky, 1991 reporting from 1960s to 1980s), there is evidence that over time reported rapes are declining. This historically overlaps with technological advances and lifting of legal bans that are presumed to make pornography more accessible, but they also coincide with other important factors that might relate to crime overall, such as improved economic conditions and the rise of women's civil rights efforts in the 1970s and 1980s that increased awareness of sexual assault. There have also been changes in how crimes are categorized and prosecuted. While some of these studies suggested other types of crimes were increasing or occurring at similar rates during the time period in which reported sexual assaults were decreasing (e.g., Diamond et al., 2011 in Croatia; Kutchinsky, 1991 in Denmark, Sweden, and West Germany), others find drops in violent crimes of all types (e.g., Diamond & Uchiyama, 1999 in Japan; Kutchinsky, 1991 in the US). Studies that have indexed pornography access more directly (e.g., Baron & Straus, 1984; Scott & Schwalm, 1988) typically find significant positive correlations, although they may shift after controlling for more proximal variables associated with sexual assault perpetration (e.g., Gentry, 1991).

Secondary Analyses: Predicting State-Level Rates of Reported Forcible Rape from Google Searches for Porn

The contradictory findings between correlation and laboratory-based studies, that generally support small but significant associations between higher pornography use and sexual assault related outcomes, and large-scale sociological and crime statistics studies, that often fail to find evidence

between greater pornography distribution rates and sexual assault related crimes, suggest some method-related factors are at play. Fundamentally these different sources of data provide answers to different questions; that is, studies with individuals see whether *within a person* we find higher pornography use is associated with greater sexual assault-related variables, while sociological studies see whether *geographic areas* with higher access to or distribution of pornographic materials also experience higher levels of sex-related crimes. Nevertheless, that a literature review would result in essentially opposite conclusions if we divide studies up by their methodological approaches leads to interpretive challenges. What are we to make of this?

Individual studies certainly, and different approaches to research studies generally, have limitations, which is why it is important to investigate matters utilizing multiple methods. To date, the majority of studies utilizing pornography distribution and crime statistics suffer from two major limitations. Setting aside the issue of the accuracy of crime statistics (which are highly problematic, especially given how often sexual assault is unreported; Kilpatrick et al., 2007), the operationalizations of pornography access have generally been lacking and the associations have failed to control for other variables that may relate to *both* pornography access and crime. In terms of operationalizations of pornography access, studies have either evaluated crime rates pre- and post-legalization of pornography (e.g., Kutchinsky, 1991) or have used number of paid subscriptions to pornographic media, such as magazines, to index pornography access (e.g., Baron & Straus, 1984). Given most pornography is accessed for free and, especially in the last decade, through the internet, these indices are problematic. Some more recent studies examined access to high-speed internet as a proxy for pornography access (Bhuller et al., 2013; Kendall, 2007); however, these studies failed to assess the extent to which internet access was related to actual searches for pornography.

To investigate further the question of how pornography access relates to crime in a given region, and to overcome prior methodological

limitations of sociological studies, I examined how internet searches for “pornography” related to reported sexual assault rates in all 50 states and the District of Columbia. I obtained relative search values (RSVs) for 2016 from Google Trends. Google Trends permits users to query how often a given search term occurred in a given time period. The user can specify regions (e.g., states), time periods (e.g., years, months, weeks), and search terms. Google Trends provides normalized scores that range from 0 to 100, which 100 representing the highest interest in that search term over the specified period of time. A score of 50 would mean that that region had half as many search terms as the highest region with a score of 100. Although absolute search queries are not provided, these data do give an index of relative frequency of searches by region and time. This served as the primary independent variable.

I also extracted data from the U.S. Census Bureau (2016) for all 50 states and the District of Columbia for potential covariates in the analysis. Data included: percent of population living in poverty, percent of population age 25+ who had obtained a college education, and percent of population that identified as non-Hispanic White. The primary dependent variable was the number of reported forcible rapes per 100,000 in 2016, extracted from the U.S. Department of Justice (2016).

Descriptive statistics and correlations among study variables are presented in Table 8.2. There was a significant positive bivariate correlation between the states’ number of Google Trend searches for “porn” in 2016 and the number of forcible rapes in that state, $r = 0.26$, $p = 0.033$, moderate effect size. Searches for “porn” were also significantly correlated with poverty and educational attainment; states with higher poverty rates and with fewer residents holding a Bachelor’s degree or higher had significantly greater Google Trend searches for “porn.” The percent of racial/ethnic minorities in a state was unassociated with Google Trend searches for “porn.”

A standard multiple regression analysis revealed that after controlling for the three demographic variables (poverty, % non-Hispanic

Table 8.2 Descriptive statistics and correlations among study variables

Variable	1	2	3	4	5
1. Google Trend RSV for “porn”	1.00	–	–	–	–
2. % population living at or below federal poverty level	0.65***	1.00	–	–	–
3. % population age 25+ with Bachelor’s degree or higher	–0.83***	–0.46***	1.00	–	–
4. % population non-Hispanic White	0.05	–0.24*	–0.23	1.00	–
5. Number of forcible rapes reported, per 100,000	0.26*	0.22	–0.05	–0.16	1.00
Mean	74.53	12.45	30.04	68.67	43.73
Standard deviation	11.41	3.11	6.12	16.18	13.85

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All variables are from 2016. $N = 51$ (all 50 states and the District of Columbia)

Table 8.3 Standard multiple regression predicting number forcible rapes from pornography Google searches, controlling for demographic variables

Variable	B (SE)	β	t	p
1. Google Trend RSV for “porn”	0.86 (0.35)	0.71	2.47	0.017
2. % population living at or below federal poverty level	–0.12 (0.84)	–0.03	–0.14	0.891
3. % population age 25+ with Bachelor’s degree or higher	1.17 (0.59)	0.52	2.00	0.052
4. % population non-Hispanic White	–0.07 (0.13)	–0.08	–0.53	0.601

White, and college educated), Google Trend searches for pornography were significantly associated with rates of forcible rape in each state, $\beta = 0.71$, $p = 0.017$. In fact, only searches for “porn” related to sexual assault rates; poverty, educational attainment, and race/ethnicity did not. Results are presented in Table 8.3.

level aggression). At the level of geographic analysis, however, associations are inconsistent.

Summary and Future Directions

Research on media effects have been of special interest to scholars for decades, with the question of whether and how pornography use might relate to sexual assault being of particular interest. Across time and methods, the general finding is that pornography, especially violent pornography, appears to be associated with small but significant increases in sexual assault-related variables, such as rape myth acceptance, negative attitudes towards women, self-reported willingness to rape, and past history of assaultive behavior. These effects appear to be more pronounced in some people, especially people who have traits that already place them at risk for increased assault potential (e.g., hostile masculinity, trait-

Key Gaps in the Literature

Despite nearly 50 years of research into the question of how pornography use is associated with sexual assault, key gaps remain. First, the most rigorous scientific approach to answering this question relies on laboratory experiments that include manipulation of the independent variable and observations of the dependent variable. Given studies cannot ethically or feasibly examine actual sexual assault perpetration, researchers have had to get creative at developing alternative behaviors that are proxies for assault (e.g., putting hot sauce in someone’s food). The degree to which these proxy measures of aggression are valid for indexing actual sexual assault perpetration potential remains questionable. In addition, laboratory studies, although able to manipulate exposure to pornography, do not mimic the ways in which pornography is actually used by people (that is, typically people use pornography to aid masturbation). The potency of pairing pornogra-

phy with orgasm, which happens frequently outside of the lab but never (or almost never) in the lab means the effects under investigation in these research studies are limited to really answering whether pornography viewing *without masturbation and orgasm* increases aggression.

Second, most studies, especially correlational studies, have participants self-report both pornography use and sexual assault perpetration histories. Self-report data are problematic because of difficulties with accurate recall of past behavior and social desirability responding (Brenner, Billy, & Grady, 2003), differing definitions of what “counts” as pornography (Willoughby & Busby, 2016), and a reluctance to report illegal behavior. It is likely technological advances that increase a sense of anonymity, such as computer-assisted surveys, more behaviorally specific questions, and clear time frames can reduce these biases (Fenton, Johnson, McManus, & Erens, 2001; Turner et al., 1998).

Third, particularly for sociological studies, the inability to find accurate estimates of pornography consumption (and users, and types of materials being distributed) in a geographic area creates challenges. Unlike other types of statistics that are regularly kept by governments and municipalities, private industries rarely share distribution statistics. Furthermore, since the vast majority of pornography is now accessed online, anonymously, and for free, estimates of consumption that rely on circulation rates of magazines, store video rentals, or even website subscriptions will largely underestimate use. Fortunately, new metrics such as Google Trends can provide some approximations of pornography access, but the data are not in raw numbers such as the total number of actual Google searches for the word “pornography,” nor do they include searches conducted through other search engines or times when people may have accessed a site directly by typing in the URL. Similarly, crime statistics data are limited by crimes that are reported to law enforcement. Many crimes, particularly sexual assaults, are grossly underreported (Kilpatrick et al., 2007). In addition, definitions of crimes

change over time, making longitudinal trend research difficult.

Fourth, evaluations of pornography effects on sexual assault tend to evaluate few variables at a single time, such as examining pornography use and objectification of women. However, as Malamuth et al. (1996) articulated in their model, how pornography influences sexual behavior is theoretically quite complex. On the occasions when people have examined three or more variables together, especially over time, interesting caveats to the pornography → sexual assault link emerge (e.g., Hald & Malamuth, 2015; Peter & Valkenburg, 2010). A greater emphasis on exploring more complex relations is important for future research. Relatedly, few studies explore how pornography use *adds* to the prediction of sexual assault potential above and beyond other variables (for an exception, see Vega & Malamuth, 2007). It will be important to continue examining the relative value of assessing pornography use in the prediction of sexual assault potential in relation to other variables.

Last, but not least, the research on pornography and sexual assault has largely been carried out with relatively young, US, primarily White men. This is true of research on sexual aggression in general, which largely ignores the role of culture and ethnic group differences (Nagayama Hall, Teten, DeGarmo, Sue, & Stephens, 2005). However, cultural factors certainly shape variables related to masculinity/femininity, sexual behavior, attitudes towards women, and consequences of violating social norms. In addition, sociocultural differences in exposure to violence and aggression, economic opportunities, familial risk factors, and discrimination experiences can translate into different risks of delinquency in general, and sexual aggression in particular. For instance, Nagayama Hall et al. (2005) found hostile masculinity, a critical component of the confluence model (Malamuth et al., 1996), predicted sexual aggression in Hawaiian Asian Americans, but not in European Americans or mainland Asian Americans). Greater attention to cultural factors and attempts to replicate findings in diverse cultural groups will be critical moving forward.

Conclusion

So, what can we conclude about the link between pornography and sexual assault? Does pornography cause sexual assault? Not directly, no. Other proximal factors such as hostile masculinity and substance use are the most direct and clear causes of sexual assault (Casey et al., 2017; Haikalis, Leone, Parrott, & DiLillo, 2018; Ward et al., 2016). However, the question is whether pornography may contribute in general to a climate that tolerates or even promotes sexual assault. The answer here is more like *yes, with caveats* (for a thorough legal analysis see Adams, 2000). Experimental studies (that allow for tight control of variables, manipulations, and determinations of how pornography *causes* an effect), correlational studies (that allow for self-report of what is typically private behavior, assessment of attitudes and beliefs, and analyses over time), and sociological studies (that allow for community-level effects instead of just focusing on individual-level effects) show increases in rape-supportive attitudes and sexual assault with increased access to pornography, especially violent and degrading pornography (Oddone-Paolucci, Genuis, and Violato, 2000). However, these findings appear to be stronger for some people than for others, such as for people who already possess personal traits that make them at risk for assault and aggression (specifically, people who are high in hostile masculinity; Malamuth, Sockloskie, Koss, & Tanaka 1991), is stronger in people who perceive pornography as being more real (Peter & Valkenburg, 2010), and for people who do not identify or empathize with the effort of performers (Parvez, 2006). Further, effects such as these can be mitigated when participants are debriefed and informed about the possible negative consequences of viewing pornography (Malamuth & Check, 1984). Sexual assault rates are therefore better explained by variables other than pornography use, although pornography use does provide a unique contribution to prediction of sexual assault perpetration (Vega & Malamuth, 2007).

Taken together, research suggests a ban on pornography is not warranted, but rather efforts to increase media literacy, including educating

the populace to be more critical consumers of pornography, to limit attempts to enhance realism perceptions, and to peel back the “fun” veneer of pornography production, distribution, and consumption are important. Pornography literacy classes can be infused in sexual education courses; in fact, some have already been doing so with preliminary outcomes being quite positive (Rothman et al., 2018). Continuing to address the gender inequities that promote violence against women and efforts to promote reporting of sexual assault, punishment of perpetrators, and protection of victims remain priorities.

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