

**The link between the consumption of violent pornography, attitudes, well-being and sexual criminal behavior: A scoping review**

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## Abstract

*Background.* The accessibility of internet pornography has raised concerns about its impact on attitudes, behaviors, and psychological well-being. Violent pornography (VP), which depicts physical force, coercion, and non-consensual acts, has been linked to negative psychological and behavioral effects among consumers and potential offenders. However, no comprehensive overview is available of the current evidence on the association between online VP consumption, attitudes, mental health and sexual criminal behaviors.

*Objective.* This scoping review aimed to summarize recent research on the prevalence of VP consumption among heterosexual men, its potential influence on perceptions of women and gender roles, its association with sexual offenses, and its psychological and social impairments.

*Method.* This scoping review followed the Arksey and O'Malley framework for structuring the review process. It included only studies involving original data collection or statistical syntheses of empirical findings published in peer-reviewed journals over the past twenty years (2005-2024). The literature search was conducted using the PubMed, PsycINFO, and Scopus databases, with reporting following the PRISMA guidelines.

*Results.* The final scoping review included seven studies published between 2009 and 2024 that met the inclusion criteria, representing diverse methodologies (cross-sectional ( $n = 3$ ), longitudinal surveys ( $n = 2$ ), experimental design ( $n = 1$ ), meta-analysis ( $n = 1$ ). The studies were conducted across six countries (United States, Australia, Sweden, Canada, Denmark, and Germany), with sample sizes ranging from 113 to 1,933 participants. VP consumption was reported by 10.1% to 15.48% of men in the included studies, with higher rates among sexually coercive individuals. Exposure was linked to rape myth acceptance, hostile masculinity, and stereotypical gender role beliefs. Strong associations were found between VP use, sexual verbal coercion, sexual assault, and sexual aggression. Psychological impairments, including depression, emotional dysregulation, and impulsivity were also common among VP consumers. While general pornography consumption showed similar effects, they were less pronounced than those linked to violent pornography.

*Conclusion.* VP consumption appears to be associated with attitudinal, behavioral, and psychological risks. However, methodological limitations and reliance on self-reported data limit the ability to draw causal conclusions. Future research should use longitudinal and experimental approaches to further assess these relationships and explore protective factors.

## **Introduction**

The new digital age of information and communication technology brings many opportunities for people to discover new things. Digital media have transformed how people access information, connect, and express themselves across global platforms, bringing numerous opportunities for exploration and creativity (Bakker & Taalas, 2007). However, this boundless connectivity also brings new risks, as the same technology that facilitates for instance educational content and global communication has also enabled the widespread distribution of explicit material. One significant consequence of this duality is the rapid proliferation of pornography. Pornography is defined as any material, such as images, videos, writings, or other media that depicts sexual acts or explicit sexual content with the primary purpose of stimulating sexual arousal in the viewer (Harvey, 2021). It often involves the portrayal of nudity, sexual intercourse, and other erotic activities intended for adult audiences (Hald et al., 2010).

### *History*

Pornographic depictions of sexuality, although a long-standing aspect of human expression, evolved considerably with technology. While early civilizations portrayed sexual themes in religious or mythological contexts through artifacts, artwork, and poetry dating back millennia, the concept of pornography as it exists today largely emerged around the 1600s, reflecting a deliberate break from social norms with the aim of arousing the viewer (Tarrant, 2016). As production technologies evolved, so did the availability and nature of pornography. Innovations like the printing press, the camera, and eventually motion pictures increased its reach. By 1896, early pornographic films, initially mild in content, began to gain popularity, with explicit portrayals of sexual acts becoming increasingly common by the early 1900s (Tarrant, 2016).

In earlier decades, pornographic material was available mainly in printed form, adult channels, and VHS tapes, but with the rise of the internet since the late 1990's, this changed dramatically. Now, online videos have largely overtaken traditional formats, allowing access to pornography anytime and anywhere via high-speed internet devices. This digital revolution has not only facilitated consumption, but has also driven production, resulting in an exponential increase of adult content websites and pornography consumption. Roughly 10-15 percent of the internet's total content is now estimated to be pornography (Tarrant, 2016). The widespread consumption of pornography is reflected in statistics indicating that 94% of men and 87% of women in the USA have watched pornography at least once, with the average age

of first exposure being 13.8 years for men and 17.8 years for women (Bennett-Brown & Wright, 2022). Studies focusing on younger populations (average age under 25) found that 44.7% of participants reported engaging in weekly pornography viewing (Miller et. Al., 2020). In one study, researchers even struggled to find a control group of men in their twenties who had not been exposed to pornography, illustrating its near ubiquity (Tarrant, 2016). In the past decades, the pornography industry itself has grown to outpace even the largest technology companies, with revenues surpassing those of Microsoft, Google, and Apple combined (Cunningham-Engram et al., 2009; Tarrant, 2016). This evolution highlights how technological advancements have fundamentally reshaped both the consumption and societal impact of pornography in the digital era.

### *Violent Pornography*

In addition to the growing prevalence of pornography, the tone and content of much of the material available also appear to have shifted significantly over recent decades. From 1988 to 2005, the production of pornographic videos surged tenfold, growing from 1,300 to 13,000 annual releases, alongside a notable shift toward increasingly aggressive content. Studies indicate that physical and verbal aggression is now present in approximately 90% of mainstream porn scenes (Tarrant, 2016). This type of content is often referred to as "violent pornography" (VP). It is characterized by the portrayal of physical force, coercion, and sometimes non-consensual acts, which are intended to sexually arouse the viewer (Hald et al., 2010). Spanking (75.3%), gagging (53.9%), open hand slapping (41.1%), and choking (27.6%) constituted the most common acts of physical aggression (Harvey, 2021; Taylor, 2018). A search for "rape porn" on Google revealed that 86% of the resulting sites advertised videos featuring women appearing to be under 18, with additional elements such as weapons (75%), drugging (43%), or incest themes (46%) (Tarrant, 2016). Fewer than 20% of young men themselves have reported accessing violent pornography at any point. Research has repeatedly highlighted the profound potential negative impacts of exposure to such violent content, especially on young men's views of sex, relationships, and consent (Hald et al., 2010; Tarrant, 2016).

### *Negative effects of violent pornography*

One of the potential negative effects of pornography consumption is the tendency for frequent use to escalate toward more extreme content. While many individuals initially engage with general, nonviolent pornography, excessive and repeated exposure can lead to a gradual shift toward more explicit and violent material, a process referred to as the

desensitization effect (Hald et al., 2014). The Violent Desensitization Model (VDM) offers a theoretical framework for understanding this shift. According to the VDM, repeated exposure to violent sexual content leads to a three-stage process: individuals first become desensitized, showing reduced emotional responsiveness; next, violent behaviors become normalized and incorporated into their sexual scripts and fantasies; and finally, empathy for victims decreases, allowing problematic attitudes and behaviors to be rationalized. The model emphasizes that it is the violent nature of the content, rather than its explicitness alone, that drives these concerning effects. This process can increase the risk of developing problematic pornography use (PPU), characterized by excessive, compulsive or out-of-control consumption of pornographic content (Taylor, 2018). Individuals with PPU often use pornography as a primary coping mechanism for stress, loneliness, boredom, or sexual arousal, leading to negative consequences such as loss of sleep, emotional distress, and withdrawal from social interaction (Tarrant, 2016; Camilleri et al., 2021).

PPU has been linked to a range of psychological and social impairments, including symptoms of depression, anxiety, and stress, as well as difficulties with emotional regulation and impulse control (Altin et al., 2024). Camilleri et al. (2021) found that 57% of participants showed signs of problematic or addictive pornography use, which often resulted in neglecting responsibilities at work, school, or home, and disengagement from social or recreational activities further reinforcing isolation, low self-esteem, and in some cases, suicidal ideation.

Beyond individual effects, PPU negatively affects romantic relationships. Studies indicate that frequent pornography consumption is associated with declines in relationship satisfaction and sexual intimacy, particularly in heterosexual relationships where the man is the primary consumer. Furthermore, PPU is associated with risky sexual behaviors, including extramarital affairs, multiple sexual partners, and paying for sex, as well as externalizing behaviors like binge drinking and drug use, which can further impair decision-making (Camilleri et al., 2021)

On a societal level, exposure to certain types of pornography, especially violent pornography, has been linked to increased aggression and violence against women (Lim et al., 2016). The same authors also found that among adolescents, frequent exposure to sexualized media may also reinforce the sexual objectification of women, contributing to gender inequalities and the normalization of unhealthy social norms. Additionally, individuals struggling with PPU may engage in behaviors that violate personal or societal values, such as dishonesty or even criminal acts (Love et al., 2015). However, these behaviors are more

accurately understood as consequences of compulsive behavior rather than direct contributing factors.

*The link between violent pornography and criminal behavior*

Besides its association with risky sexual behaviors and reduced well-being, a substantial body of empirical research has demonstrated a significant link between the consumption of sexually explicit media and increased sexual delinquency, including sexual assault, sexual coercion, and rape (Taylor, 2018). Research indicates that exposure to pornography, particularly violent content, can have profound negative implications for attitudes and behaviors toward women (Shope, 2004). The same study suggests that such exposure normalizes aggression, reduces empathy for female victims, and reinforces rape myths, making violence against women seem more acceptable. Violent pornography, which often blurs the boundaries between consensual and non-consensual acts, is associated with an increased likelihood of sexually aggressive behaviors and the internalization of dominance and control as acceptable in sexual encounters. For example, Gray (1982) found that hard-core pornography could intensify aggression in men who are already angered, exacerbating their violent tendencies.

Over time, repeated exposure to violent pornographic content can desensitize viewers to violence, diminishing their perception of such behaviors as harmful and fostering rape-supportive attitudes. This normalization, including depictions of forced sex, leads some viewers to justify or downplay non-consensual acts, perceiving them as less serious or more socially tolerated (Marshall & Barbaree, 1990). Such attitudes can manifest as sexual coercion, where manipulative or forceful tactics are employed to obtain sexual acts, or even as outright rape, with offenders internalizing myths that excuse their actions, such as the belief that victims provoke their attackers. These effects underscore the broader societal risks posed by violent pornography, highlighting its potential to fuel a culture that diminishes accountability for sexual offenses like sexual assault, coercion, and rape (Taylor, 2018).

While much previous research has examined the potential negative effects of pornography, such as increased aggression, sexual objectification of women, desensitization to violence, and the reinforcement of gender stereotypes (e.g., Lim et al., 2016; Hald et al., 2014), no comprehensive overview is available of the current evidence base on the specific association between online violent pornography watching, attitudes, mental health and sexual criminal behaviors. Given the increasing accessibility and consumption of violent pornography, understanding its current potential role in shaping attitudes and behaviors is

critical. Empirical research suggests that exposure to violent pornographic content can normalize aggression, reduce empathy toward victims, and reinforce rape-supportive attitudes, which may contribute to sexually coercive or aggressive behaviors (Shope, 2004; Marshall & Barbaree, 1990). Additionally, the desensitization effects of repeated exposure raise concerns about its long-term psychological and social consequences, emphasizing the need for a focused review on these interconnections. These findings underline the importance of understanding the potential impacts of violent pornography and the mechanisms through which it may influence sexual offending behaviors.

The aim of this scoping review is to summarize the current literature, evidence and evidence gaps on the potential links between violent internet pornography consumption, mental health and sexual offenses. Specifically, the review focuses on answering key research questions related to the potential role of violent pornography in influencing behaviors such as sexual assault, sexual coercion, and rape. As previous research suggests that pornography consumption is especially prevalent among heterosexual men, particularly those in younger age categories, with the internet serving as the primary medium for accessing such material, this review narrows its focus to the mental health of and sexual offenses perpetrated by heterosexual men. The emphasis is on violent pornography that portrays violence against women, as especially this type of content is hypothesized to effectively model and potentially reinforce violent behavior. To align with current media consumption trends, the review exclusively considers internet pornography, given its widespread accessibility and high usage rates. Specifically, the review aims to address the following research questions:

1. How prevalent is violent internet pornography consumption among heterosexual men, particularly younger men?
2. How does exposure to violent internet pornography affect perceptions of women and gender roles among heterosexual men?
3. Is violent pornography associated with sexual offenses, such as sexual assault, sexual coercion, and rape?
4. What are the psychological and social impairments associated with frequent violent pornography use among heterosexual men?

## Methods

A scoping review is a method of literature review aimed at mapping the existing research on a specific topic, providing an overview of key concepts, findings, and gaps in the literature (Munn et al., 2018). Unlike systematic reviews, which focus on answering narrowly defined research questions through rigorous quality assessment, scoping reviews adopt a generally broader and more explorative approach (Arksey & O'Malley, 2005). They are particularly useful in emerging or complex fields where research may be sparse or fragmented, as they clarify terminology, explore the breadth of information available, and identify areas for further investigation (Tricco et al., 2016). While systematic in their search and selection of relevant studies, scoping reviews typically do not include a formal quality appraisal, instead synthesizing findings to summarize the state of knowledge in a given field (Arksey & O'Malley, 2005). The current scoping review was guided by Arksey and O'Malley's (2005) methodological framework, which includes: identifying the research question, searching for relevant studies, selecting studies, charting the data, and collating, summarizing, and reporting the results. In this review, a comprehensive search strategy was used to identify and analyze research from disciplines such as psychology, sociology, and criminology to provide a nuanced understanding of violent pornography consumption and its associated impacts.

### *Search strategy*

The review process was conducted in December 2024 and January 2025 in accordance with the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) guidelines for scoping reviews (Tricco et al., 2018), ensuring a systematic and transparent methodology. The literature search was conducted using the PubMed, PsycINFO, and Scopus databases. These databases were selected because of their coverage of different relevant disciplines. Together, these databases considered to allow a thorough and comprehensive review of the empirical evidence relevant to the research topic.

PubMed was chosen for its extensive repository of biomedical and life sciences research, providing access to studies on health, medicine, and related topics. The database's use of Medical Subject Headings (MeSH) allowed for a systematic and comprehensive search strategy by incorporating standardized vocabulary terms. MeSH terms such as "Sexual Offenses," and "Erotica" were employed to capture a broad range of relevant studies while ensuring consistency and precision. This approach facilitated the inclusion of studies indexed under related subcategories, such as "rape" and "sexual assault," regardless of variations in



terminology used by individual studies. Boolean operators (*AND*, *OR*, *NOT*) were combined with MeSH terms to refine the search further and target studies relevant to the research objectives.

PsycINFO specializes in psychology and behavioral sciences, ensuring the inclusion of studies focused on psychological and social dimensions. The literature search included PsycINFO's APA Thesaurus of Psychological Index Terms to ensure a systematic and comprehensive retrieval of studies. Controlled vocabulary terms, such as "Sexual Offenses," were used to capture broader concepts encompassing narrower topics like "rape" and "sexual assault." Boolean operators (*AND*, *OR*, *NOT*) were combined with these thesaurus terms to refine the search further and target studies relevant to the research objectives. The use of controlled vocabulary allowed for the inclusion of all indexed articles under specific psychological constructs, regardless of variations in the wording of individual studies.

Scopus was included for its multidisciplinary coverage of peer-reviewed literature across a wide range of fields, including social sciences, health sciences, and more. Boolean operators (*AND*, *OR*, *NOT*), as outlined in Table 1, were used to structure and refine the search strategy in Scopus. This ensured that the search retrieved studies relevant to the research objectives while filtering out irrelevant results.

This scoping review focused only on empirical studies, defined here as research involving either original data collection or the statistical synthesis of empirical findings, published in peer-reviewed journals over the past twenty years (2005-2024) to limit the research to recent evidence. To increase the reliability and validity of its conclusions, the review exclusively considered studies published in English-language peer-reviewed journals. The exact inclusion and exclusion criteria are shown in Table 2.

**Table 1.**

*Search Terms*

Data Base	Search Terms
PubMed	Mesh terms: (("Sex Offenses"[Mesh]) NOT "Child Abuse, Sexual"[Mesh] AND "Erotica/psychology"[Mesh])
PsycINFO	Boolean: violent pornography AND sexual offenses or sexual crimes AND mental health or mental illness
Scopus	Violent Pornography and Sexual Offenses; Violent Pornography

**Table 2.***Inclusion and Exclusion Criteria*

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> <li>• Focused on violent pornography and its effects, particularly on heterosexual men.</li> <li>• Association between violent pornography consumption and sexual offenses (including coercion, assault, or rape).</li> <li>• Investigated mental health outcomes (e.g., depression, anxiety, stress, addiction), attitudinal repercussions (e.g., normalization of violence, reinforcement of harmful stereotypes) and behaviour (sexual offenses).</li> <li>• Considered internet pornography as the main medium, reflecting its current dominance in media consumption.</li> </ul>	<ul style="list-style-type: none"> <li>• Effects on homosexual men.</li> <li>• Anecdotal reports, non-peer-reviewed sources, and studies that do not distinguish between violent and non-violent pornography.</li> <li>• Children pornography, sexual offenses related to children.</li> <li>• Articles that focus on women.</li> </ul>

This focus enabled the review to maintain rigor and relevance, prioritizing research specifically addressing violent pornography and its associated effects. All study designs were included, encompassing both quantitative and qualitative research. Eligible studies could include survey-based studies, longitudinal studies, experimental studies, and qualitative research that involved direct data collection from participants. Additionally, meta-analyses were included, as they provide a statistical synthesis of empirical findings and assess overall effect sizes across multiple studies. Studies included had to assess the prevalence, psychological, attitudinal, or behavioral impacts, or associations between violent pornography consumption and sexual offenses. Reviews, theoretical papers, and opinion pieces were

excluded to maintain a focus on studies that either collected original data or systematically analyzed empirical results.

### *Study selection and data extraction*

The selection process for this scoping review involved multiple stages to ensure the inclusion of relevant studies. All references and citations were managed using Mendeley, a reference management software. Mendeley was used to store, organize, and annotate the articles included in the scoping review. Additionally, Mendeley's duplicate detection feature was utilized to identify and remove duplicate articles. The software facilitated efficient tracking of relevant studies, ensured consistent citation formatting, and enabled the export of bibliographic information for synthesis.

During the initial screening phase, the titles and abstracts of identified articles were screened to determine their relevance to the research topic. Articles passing this stage underwent a full-text review, where each study was assessed against the inclusion and exclusion criteria to ensure alignment with the review's objectives. For data extraction, data from selected articles were systematically extracted and analyzed to address the research questions. First, for each study, the bibliographic details, including the title, authors, year of publication, country, and journal name were documented. The study design information included the type of study (e.g., qualitative, quantitative or mixed-methods), as well as sample size and characteristics such as participants' age, demographics, location, and relevance to heterosexual men.

Key themes were identified to guide data extraction and ensure alignment with the research questions. First, the prevalence of violent internet pornography consumption was examined, with particular focus on reported prevalence rates, target demographics (e.g., younger men or specific age groups), and patterns or frequency of use. Second, studies were analyzed for their findings on if and how exposure to violent pornography was associated with perceptions of women and gender roles. This included examining attitudes toward women, reinforcement of stereotypes, normalization of violence, and any conclusions drawn by the authors. The third theme explored the behavioral impacts of violent pornography, specifically its association with sexual offenses such as sexual assault, sexual coercion, and rape. Study findings on behavioral modeling or reinforcement of these behaviors were also considered. Finally, the review examined the psychological and social impairments linked to violent pornography consumption. Mental health outcomes such as depression, anxiety, stress, and addiction were reviewed, alongside social impairments including relationship issues,

isolation, and aggression. Indicators of problematic use and its consequences were also highlighted.

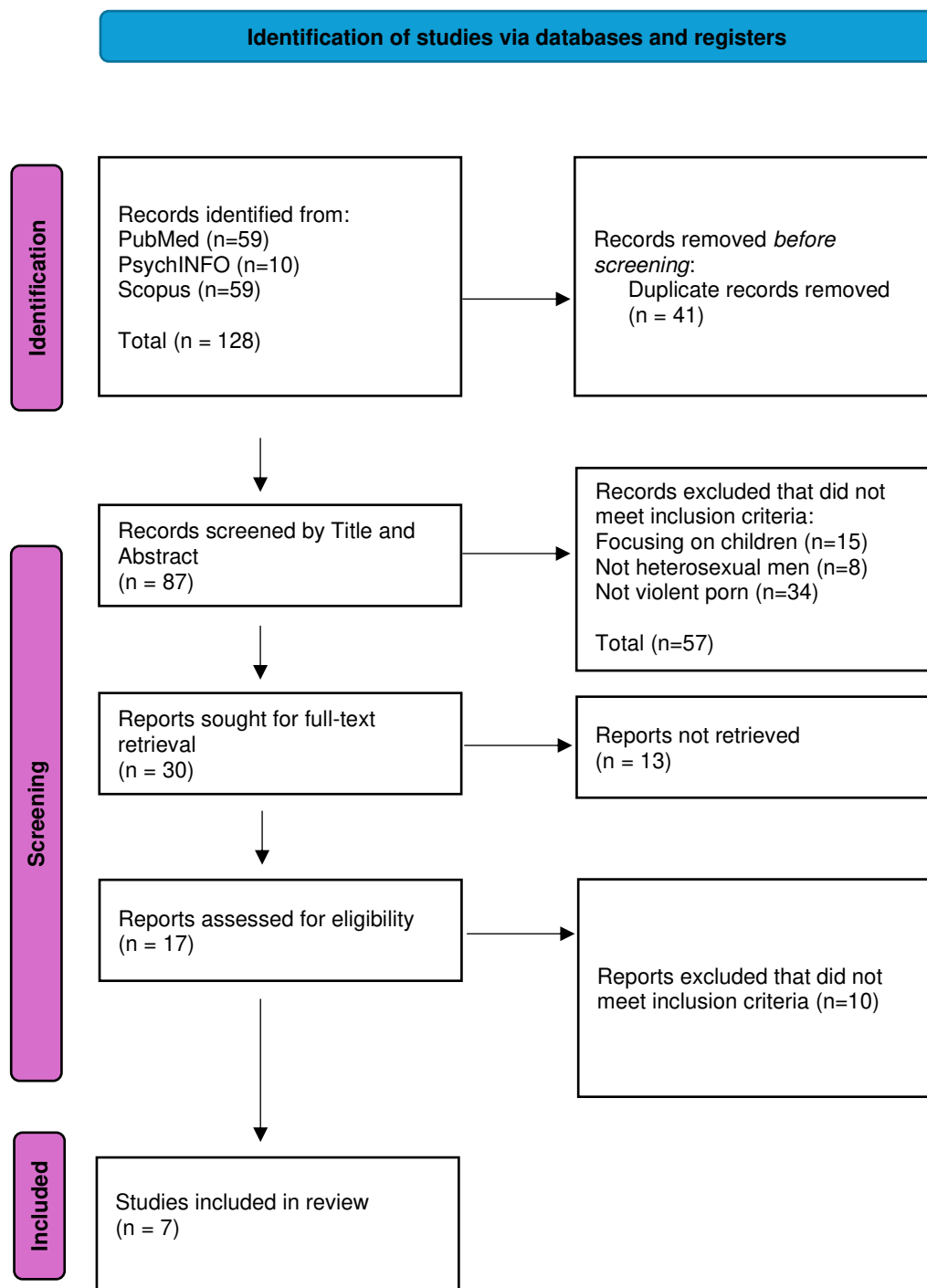
Key findings of the included studies were narratively summarized with specific attention to their relevance to the research questions. As many of the quantitative studies reported associations, effect sizes such as correlation coefficients (Pearson's  $r$ ) and odds ratios (OR) were used to interpret the strength of these relationships. To aid interpretation, thresholds of  $r = .10$ ,  $.20$ , and  $.30$  were used to indicate small, medium, and large effects (Cohen, 1988). These values have been rounded to the nearest 0.05 from the calculated percentiles. Similarly, to interpret OR in terms of effect size, values close to 1.5 indicate a small effect, around 2.0 suggest a moderate effect, and those near 3.0 or higher represent a large effect (Chen et al., 2019).

The strengths of each study, such as robust methodologies and sample sizes, were highlighted, while limitations, including lack of longitudinal data or geographic constraints, were noted. Each study's relevance to the scoping review's objectives was clearly articulated. Contradictions or gaps in the evidence were noted, and the implications for policy development, educational initiatives, and future research were discussed. This comprehensive and structured approach aimed to ensure that the scoping review effectively addressed the research questions.

## Results

### *Search flow*

As shown in Figure 1, a total of 128 publications were identified from the three databases, of which 41 were duplicates. At the end of the screening process, seven studies remained for further analysis (Figure 1). In Table 3, an overview of the characteristics of these studies is given, summarizing details such as author, publication year, country, journal name, study design, and participant demographics. The studies included in the review were published between 2009 and 2024, covering a 15-year period from six different countries.

**Figure 1.***PRISMA 2020 Flow Diagram*

**Table 3.***Study Characteristics of the Included Studies*

Author, Year	Country	Journal Name	Study design	Participants'
Bernstein, Warburton, Bussey, and Sweller (2022)	Australia	<i>Psychology of Popular Media</i>	Quantitative: Cross-sectional online questionnaire study	423 young adult undergraduate psychology students (28.6% male; 70.1% female), aged 17–25 from an Australian university
Zheng, Ray, and Parkhill (2024)	United States	<i>Psychology of Violence</i>	Quantitative: Cross-sectional online questionnaire study	491 male participants (average age: 30.52, primarily White, from the U.S.) recruited via Amazon Mechanical Turk (MTurk)
Hald, Malamuth and Yuen (2009)	United States, Denmark	<i>Aggressive Behavior</i>	Quantitative, Meta-analysis of nonexperimental studies	Nine studies included, with a total of 2,309 male participants
Marshall, Bouffard, and Miller (2021)	United States	<i>Sexual Abuse</i>	Quantitative: Experimental Study (Survey & Video Exposure)	745 undergraduate students (men and women) from criminology and psychology courses at a U.S. university; Focus is on 218 men in final sample (average age: 21.6)

Vasquez, Daspe, Böthe, Brassard, Lussier, Vaillancourt-Morel (2024)	Canada	<i>Journal of Interpersonal Violence</i>	Quantitative: Longitudinal online questionnaire study (2-year follow-up)	113 young adult couples (ages 16–29) from Canada
Ybarra, Thompson (2018)	United States	<i>Prevention Science</i>	Quantitative, Longitudinal Study (Six-wave national online survey)	1,586 youth-caregiver pairs (ages 10-15) surveyed between 2006-2012
Kjellgren, Priebe, Svedin, and Långström (2010)	Sweden	<i>Archives of Sexual Behavior</i>	Quantitative, Population- Based Survey	1,933 young male high school students (ages 17–20) in Sweden

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The key themes identified in Table 4 align with the four main research questions: Prevalence of Violent Pornography Consumption, Impact on Perceptions of Women and Gender Roles, Behavioral Links to Sexual Offenses, and Psychological and Social Impairments. Each study's aim is included to contextualize its contribution to the respective theme.

**Table 4.**

*Key Themes of the Included Studies*

Study	Aim of the Study	Prevalence of (Violent) Pornography Consumption	Impact on Perceptions of Women & Gender Roles	Behavioral Links to Sexual Offenses	Psychological & Social Impairments
Bernstein et al. (2022)	Identify association between problematic IP viewing and gendered and sexually coercive attitudes and beliefs as well as the role of factors linked to a vulnerability to developing problematic IP viewing	31% reported watching IP at least once a week; 37% viewed daily or several times a week.	Significant positive associations between problematic IP viewing, stereo typical gendered attitudes ( $r = .26$ ; $p < .01$ ) and IP-congruent beliefs (including beliefs that endorse sexual coercion) ( $r = .20$ ; $p < .01$ )		Positive associations between problematic IP viewing and psychological vulnerability factors such as higher levels of sexual impulsivity ( $r = .17$ , $p = .006$ ), self-assess their IP viewing as problematic (Cohen's $d = .61$ , $r = .29$ , $p < .001$ ), depression ( $r = .23$ , $p < .01$ ), and the tendency to dissociate ( $r = .17$ , $p < .01$ )



Zheng et al. (2024)	Identify patterns of PE among men using frequency, duration, and content indicators and examine if these profiles were associated with male-perpetrated sexual aggression toward women and other well-established risk factors, such as rape myth acceptance, hostile masculinity, casual sex, psychopathy, and emotion regulation difficulties	81.87% reported viewing pornography at least once per week, and 17.11% viewed pornography daily.  15.48% categorized as violent pornography viewers	Violent pornography viewers had increased severity of sexual aggression ( $r = .38, p < .001$ ) and its risk factors, including rape myth acceptance ( $r = .31, p < .001$ ) and hostile masculinity ( $r = .42, p < .001$ )	Approximately 44.20% of the sample reported perpetrating at least one sexually aggressive act, the most common of which was sexual contact by verbal coercion	Violent pornography viewers had significantly higher means, compared to the average pornography viewers profile, for sexual aggression ( $r = .38, p < .001$ ), psychopathy ( $r = .35, p < .001$ ) and emotion regulation difficulties ( $r = .25, p < .001$ )
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Hald et al. (2009)	Determine whether nonexperimental studies revealed an association between men's pornography consumption and their attitudes supporting violence against women.	No explicit prevalence data; meta-analysis confirmed widespread use of violent and nonviolent pornography.	Significant correlation between violent pornography viewers and attitudes supporting violence against women ( $r = .24; p < .001$ )	Long-term desensitization and normalization of aggression.
Marshall et al. (2021)	Examine the potential mediating effects of sexual arousal on the relationship between pornography use frequency (no type of content) and willingness to engage in verbal and	90% of college men regularly viewed pornography.  Men using porn modalities: (0.88), 49% of the sample reported at least monthly use	The frequency of use ( $r = .265, p < .01$ ) is significantly correlated with verbal coercion ( $r = .265, p < .01$ ) and with the likelihood of illegal coercion ( $r = .167, p < .05$ ).  Direct association between both pornography use	Frequency of pornography use correlates with alcohol frequency ( $r = .262, p < .01$ ) and lower self-control ( $r = -.174, p < .01$ )

	illegal sexual coercive behaviors		frequency ( $\beta = .239, p < .01$ ) and rape myth acceptance ( $\beta = .153, p < .05$ ) as predictors of coercion/force
Vasquez et al. (2024)	Examine the associations between pornography use frequency and the perpetration of physical and psychological IPV, and sexual coercion among young adult couples.	Pornography use frequency ranging from “never (0) to “many times a day (7) ( $M = 3.83$ )	Pornography use frequency at Time 1 was positively associated with later sexual coercion perpetration at Time 2 ( $\beta = .20, p = .012$ ).
Ybarra & Thompson (2018)	Examine the etiology of SV perpetration by	Exposure linked to increased rape-supportive attitudes ( $p$	Sexualized and violent media were each

	identifying prior exposures that predict a first SV perpetration. Five types of SV were assessed: sexual harassment, sexual assault, coercive sex, attempted rape, and rape	= 0.029) and acceptance of couple’s violence ( $p < 0.01$ ).	associated with reported sexual harassment (23%, $n = 122$ ; $OR = 10.96$ , 95% $CI$ [2.78, 43.18], $p < .01$ ), sexual assault (10%, $n = 29$ ; $OR = 46.10$ , 95% $CI$ [3.05, 697.84], $p < .01$ ), coercive sex ( $OR = 10.77$ , 95% $CI$ [2.90, 40.01], $p < .001$ ); and rape (4%, $n = 28$ ; $OR = 7.51$ , 95% $CI$ [1.24, 45.58], $p < .028$ )	82% of perpetrators reported aggressive behavior ( $p < .001$ ) and low levels of empathy
Kjellgren et al. (2010)	Identify risk/protective factors for sexually coercive behavior among male youth across sexually	10.1% overall, but 29.7% among sexually coercive youth.	SEX ( $N = 101$ ) reported more stereotypical gender-role cognitions ( $OR = 1.05$ , 95% $CI$ [1.02, 1.09] and rape	SEX reported daily smoking (22.2%), ( $OR = 2.13$ , 95% $CI$ [1.30–3.51], more use of alcohol (19.8%), ( $OR = 3.36$ , 95% $CI$ [1.94–5.84], depressive symptoms ( $M = 15.21$ )

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coercive (SEX), non-sexual conduct problem (CP), and normal control (NC) participants	<i>N</i> = 30 ever watched violent porn  Frequent use of porn and violent porn was more common among SEX	myths ( <i>OR</i> = 1.12, 95% <i>CI</i> [1.07, 1.17]
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*Note.* IP= Internet pornography; PE= Pornography Exposure; IPV = Intimate Partner Violence; SV= Sexual Violence; OR= Odds Ratio; CI= Confidence Interval

The final scoping review included seven empirical studies that met the inclusion criteria, representing diverse methodologies such as cross-sectional ( $n = 3$ ), longitudinal surveys ( $n = 2$ ), an experimental design ( $n = 1$ ), and a meta-analysis ( $n = 1$ ). The studies were conducted across six countries (United States, Australia, Sweden, Canada, Denmark, and Germany), with sample sizes ranging from 113 to 1,933 participants. The populations studied primarily consisted of heterosexual men, including adolescents, young adults, university students, as well as problematic pornography users. The study focus varied, with some examining the prevalence and frequency of violent pornography consumption, while others explored its associations with gender role perceptions, sexual offenses including sexually aggressive behaviors, and mental health outcomes. The seven empirical studies employed a variety of statistical analyses, including correlational and regression analyses, latent profile analysis (LPA), structural equation modeling (SEM), longitudinal analyses, meta-analysis, as well as group comparison tests such as ANOVA and chi-square. These methods were used to examine relationships between variables, identify predictors of sexually coercive behavior, and track behavioral changes over time.

### **How Prevalent is Violent Internet Pornography Consumption Among Heterosexual Men, Particularly in the Younger Demographics?**

Two out of the seven studies (Kjellgren et al., 2010; Zheng et al., 2024) explicitly reported prevalence rates of violent pornography consumption, while the remaining studies focused on general pornography use. Kjellgren et al. (2010) found that 10.1% of high school males aged 17–20 had consumed violent pornography, increasing to 29.7% among those who had engaged in sexually coercive behavior. Zheng et al. (2024) identified 15.48% of adult men as violent pornography consumers.

Other studies confirmed high general pornography consumption rates among young men, but did not specify violent content consumption separately (Bernstein et al., 2022; Marshall, 2021; Vasquez et al., 2024; Zheng et al., 2024). Pornography use was operationalized in various ways, such as assessing the frequency of viewing per week or categorizing participants based on self-reported consumption habits. Some studies measured pornography use on a continuous scale (e.g., from "never" to "multiple times per day"), while others used categorical measures, such as viewing at least once per week, several times per week, or daily. Bernstein et al. (2022) reported that 31% watched pornography at least once a week, while 37% viewed it daily or several times a week. Marshall et al. (2021) further found that 90% of college men regularly viewed pornography. Vasquez et al. (2024) used a 0–7

scale to assess frequency, with an average score of 3.83 indicating multiple sessions per week. Finally, Zheng et al. (2024) found that 81.87% of men reported viewing pornography at least once per week, with 17.11% watching daily.

### **How is Exposure to Violent Internet Pornography associated with Perceptions of Women and Gender Roles?**

Four of the seven studies (Hald et al., 2009; Kjellgren et al., 2010; Ybarra & Thompson, 2018; Zheng et al., 2024) examined how violent pornography exposure was associated with attitudes toward women and gender roles, while one study (Bernstein et al., 2022) focused on general (nonviolent) pornography use.

Hald et al. (2009) found a moderate correlation between pornography consumption and attitudes supporting violence against women ( $r = .24, p < .001$ ), with violent pornography showing a stronger association than nonviolent content. Kjellgren et al. (2010) further confirmed that sexually coercive youth were significantly more likely to hold stereotypical gender-role cognitions ( $OR = 1.05$ ) and endorse rape myths ( $OR = 1.12$ ), indicating a small but significant effect. Ybarra and Thompson (2018) found that rape-supportive attitudes ( $p = .029$ ) and acceptance of couple's violence ( $p < .01$ ) were more commonly reported among perpetrators, indicating that these attitudes may be risk factors for sexual aggression. Zheng et al. (2024) similarly reported that violent pornography consumers exhibited increased severity of sexual aggression ( $r = .38, p < .001$ ) and its associated risk factors, including rape myth acceptance ( $r = .31, p < .001$ ) and hostile masculinity ( $r = .42, p < .001$ ), indicating strong and significant associations.

Beyond violent pornography, Bernstein et al. (2022) found a moderate significant positive association between problematic internet pornography viewing and stereotypical gender attitudes ( $r = .26, p < .01$ ). Additionally, problematic pornography use was moderately associated with pornography-congruent beliefs, including the acceptance of sexual coercion ( $r = .20, p < .01$ ). These findings suggest a moderate effect size, however less pronounced compared to violent pornography.

### **Is Violent Pornography associated with Sexual Offenses (e.g., Sexual Assault, Coercion, Rape)?**

Out of the seven studies included in this scoping review, three explicitly examined the relationship between violent pornography consumption and sexual offenses (Kjellgren et al., 2010; Ybarra & Thompson, 2018; Zheng et al., 2024), while two studies (Marshall et al.,

2021; Vasquez et al., 2024) investigated the broader link between general pornography use and sexually aggressive behaviors.

The most pronounced effects were reported by Ybarra and Thompson (2018), who found that individuals exposed to violent and sexualized media are 10 to 46 times more likely to engage in sexual harassment (23%), coercive sex, rape (4%), and sexual assault (10%), being the most common. They also identified violent pornography exposure as a significant predictor of first-time sexual violence perpetration. Similarly, Kjellgren et al. (2010) found that sexually coercive individuals were substantially more likely to consume violent pornography ( $OR = 3.75$ ). Zheng et al. (2024) identified higher levels of sexual aggression among violent pornography users ( $r = .38, p < .001$ ) and reported that 44.2% of the sample admitted to perpetrating at least one sexually aggressive act, with verbal coercion being the most commonly reported form (35.23%).

Marshall et al., 2021 found moderate associations between general pornography use and verbal coercion ( $r = .265, p < .01$ ) and weak correlations with the likelihood of illegal coercion ( $r = .167, p < .05$ ). Additionally, a direct association between both pornography use frequency ( $\beta = .239, p < .01$ ) and rape myth acceptance ( $\beta = .153, p < .05$ ) was found as predictors of coercion or force. Vasquez et al. (2024) found that earlier pornography use predicted later sexual coercion ( $\beta = .20, p = .012$ ), though prior perpetration ( $\beta = .54, p < .001$ ) remained the strongest predictor. Together, these findings suggest that violent pornography consumption is linked to increased sexual aggression and the likelihood of engaging in sexual coercion over time.

### **What are the Psychological and Social Impairments Associated with Problematic Violent Pornography Use?**

Three of the seven studies (Kjellgren et al., 2010; Ybarra & Thompson, 2018; Zheng et al., 2024) specifically examined psychological and social consequences associated with violent pornography consumption, while two others (Bernstein et al., 2022; Marshall et al., 2019) focused on general pornography consumption and its effects.

Findings from Kjellgren et al. (2010) suggest that young sexual offenders who consumed violent pornography showed elevated levels of depressive symptoms, 22.2% reported daily smoking, and 19.8% reported increased alcohol consumption. Ybarra and Thompson (2018) further demonstrated that 82% of individuals who had engaged in sexually coercive behaviors reported aggressive behavior ( $p < .001$ ) and low levels of empathy, indicating a significant relationship. Zheng et al. (2024) found that violent pornography



viewers had significantly higher levels of sexual aggression, with a large effect size ( $r = .38, p < .001$ ). They also exhibited higher levels of psychopathy, again demonstrating a large effect size ( $r = .35, p < .001$ ) and emotion regulation difficulties ( $r = .25, p < .001$ ) with a moderate effect size.

Bernstein et al. (2022) reported positive associations between general problematic internet pornography (IP) viewing and psychological vulnerability factors, including higher levels of sexual impulsivity ( $r = .17, p = .006$ ), showing a small to moderate effect size. Problematic pornography use was also moderately associated with depression ( $r = .23, p < .01$ ), and weak to moderately related to the tendency to dissociate ( $r = .17, p < .01$ ). Additionally, these individuals self-assess their IP viewing as problematic, which was found to have a moderate-to-large effect size ( $r = .29, p < .001$ ). Similarly, Marshall et al. (2021) found that the frequency of pornography use was moderately associated with alcohol frequency ( $r = .262, p < .01$ ) and lower self-control ( $r = -.174, p < .01$ ), showing a small to moderate effect size.

## Discussion

This scoping review synthesizes the current evidence on the prevalence and associations of violent internet pornography consumption with attitudes toward women, sexual offenses, and psychological well-being among heterosexual men. The findings are structured around four research questions: the prevalence of violent pornography consumption, its impact on perceptions of women and gender roles, behavioral links to sexual offenses, and associated psychological and social impairments. These insights are drawn from seven eligible empirical studies conducted across six countries between 2009 and 2024. The findings confirm that while violent pornography consumption is less common than general pornography use, it is associated with more problematic outcomes, including increased acceptance of rape myths, sexually coercive behaviors, and mental health impairments. These results align with and extend prior research on the potential negative effects of violent pornography consumption, highlighting the need for further investigation into the long-term consequences of violent pornography exposure and its role in shaping attitudes, behaviors and well-being.

### *Prevalence of Violent Pornography Consumption*

The results of this review indicate that violent pornography consumption is prevalent among a notable minority of heterosexual men, with reported rates ranging from 10.1% (Kjellgren et al., 2010) to 15.48% (Zheng et al., 2024). These findings align with past research indicating that while pornography consumption is highly prevalent among young adults, only a subset actively engages with violent content (Hald et al., 2010; Tarrant, 2016). A shift in content is notably reflected in mainstream productions, with studies showing that physical and verbal aggression is now present in approximately 90% of pornographic scenes (Tarrant, 2016). Repeated exposure to violent content can lead to desensitization, where individuals seek increasingly extreme material to achieve the same level of arousal (Taylor, 2018). According to the Violent Desensitization Model (VDM), this process results from the repeated overstimulation of the brain's reward system, which eventually leads to a diminished neural response to the same stimuli (Love et al., 2015; Zillmann & Bryant, 1986). However, longitudinal and especially neurocognitive studies are needed to determine whether violent pornography consumption follows this desensitization and tolerance pattern over time.

Differences in measurement approaches and how violent pornography is defined across studies limit direct comparisons. The definition of violent pornography varied, with some studies including explicit physical aggression while others classified dominance and degradation themes as violent content. Additionally, while all studies assessed frequency of consumption categorically, they differed in their degree of specificity. Some studies employed broader categories (e.g., ever vs. never viewed violent pornography), while others used more refined scales (e.g., weekly or daily use). Additionally, many studies rely on convenience samples rather than randomly selected participants, which may limit the generalizability of findings to broader populations. Even studies that did not rely on convenience samples often failed to report whether their samples were representative of the general population (e.g., in terms of age, gender, or other sociodemographic characteristics). This issue is particularly relevant when examining the prevalence and patterns of violent pornography consumption, as non-random samples may over- or under-represent certain subgroups, such as college students or individuals with stronger attitudes toward pornography.

This concern is further compounded by the fact that most studies have been conducted in Western countries, potentially limiting the applicability of findings to non-Western contexts where cultural norms, gender role perceptions, and legal frameworks may differ. For instance, a study validating the Pornography Use Motivations Scale (PUMS) across diverse populations found that while sexual pleasure was a common motivation globally, factors such

as self-exploration were more prevalent among gender-diverse individuals, with notable cross-cultural variation (Koós et al., 2024). Similarly, a brief review highlighted that PPU is shaped by cultural attitudes toward sex and pornography, showing significant prevalence even in conservative societies (Ahorsu et al., 2023). Future research would also benefit from standardized operational definitions, refined scales, and more representative sampling methods to improve the generalizability of findings.

### *Impact on Perceptions of Women and Gender Roles*

One of the most consistent findings across the studies reviewed was the association between violent pornography consumption, negative stereotypical attitudes toward women and attitudes supporting violence against women. Exposure to (violent) pornography was correlated with higher rape myth acceptance, greater endorsement of stereotypical gender roles, and increased hostile masculinity (Bernstein et al., 2022; Hald et al., 2009; Kjellgren et al., 2010; Zheng et al., 2024). The strength of these correlations varied, with some studies showing moderate to strong correlations (e.g.,  $r = .20 - .42$ ,  $p < .001 - p = .01$ ), suggesting a meaningful relationship between violent pornography consumption and gendered beliefs. These findings reinforce earlier work suggesting that violent sexual content may contribute to gendered power imbalances and the normalization of coercion (Lim et al., 2016; Shope, 2004). These patterns of findings can be interpreted through the lens of the Confluence Model of Sexual Aggression (Malamuth, 1996), a widely used framework explaining how certain traits and experiences interact to increase the likelihood of sexually aggressive behavior in men.

Interestingly, while violent pornography exhibited the strongest associations with these attitudes, several studies found that general pornography consumption regardless of content was also linked to stereotypical gendered attitudes (Bernstein et al., 2022; Marshall et al., 2021). This aligns with meta-analytic research indicating that even nonviolent pornography reinforces stereotypical gender ideologies that position women as sexually submissive (Hald et al., 2010). However, the strength of the associations differed, with violent pornography typically showing stronger effect sizes than general pornography use. This distinction highlights the importance of content-specific analyses in pornography research, rather than treating all pornography consumption as homogenous.

Studies suggesting that exposure to pornography makes violence against women appear more acceptable, however, face significant challenges in determining causality. While many findings indicate a correlation between viewing violent pornography and reduced

empathy for female victims or increased tolerance for aggression, these studies generally cannot confirm whether pornography consumption directly causes or even precedes these attitudes, or if individuals with pre-existing violent or misogynistic tendencies are more drawn to such content. Additionally, contextual factors, such as cultural norms, personal values, and prior exposure to violence, can influence both the consumption of violent media and subsequent behaviors, making it difficult to isolate pornography as the sole driver of these attitudes. Ethical and logistical constraints also limit the ability to conduct controlled experiments, further complicating efforts to establish causation. As a result, while these studies highlight concerning trends, caution is needed in interpreting their findings.

### *Association with Sexual Offenses*

A consistent finding of this scoping review was the link between violent pornography consumption, sexual coercive behavior and sexual assault. Several studies identified a direct relationship between violent pornography use and self-reported sexual coercion, including verbal coercion, harassment, and assault (Kjellgren et al., 2010; Ybarra & Thompson, 2018; Zheng et al., 2024). Notably, Ybarra and Thompson (2018) found that violent pornography exposure was a significant predictor of first-time sexual violence perpetration, underscoring concerns about its role in initiating aggressive sexual behaviors. Additionally, sexual assault exhibited an extremely strong effect, with perpetrators being over 46 times more likely to commit this offense. These findings indicate that violent pornography consumption has a strong to very strong predictive capacity, with odds ratios (e.g.,  $OR = 10.77 - 46.10$ ,  $p < .001$ ) for various forms of sexual aggression, reinforcing concerns about its potential role in shaping coercive and violent sexual behaviors.

Additionally, longitudinal studies confirmed that violent pornography consumption predicts future sexual aggression, even after accounting for prior aggression levels and other risk factors (Vasquez et al., 2024). This suggests that violent pornography may not only be associated with concurrent sexually coercive behaviors but could actively contribute to the development of these behaviors over time, suggesting a causal or temporal effect of violent pornography. These findings are consistent with earlier research suggesting that exposure to violent pornography desensitizes users to aggression and increases the likelihood of imitating coercive behaviors in real-life sexual encounters (Marshall & Barbaree, 1990; Shupe, 2004). These findings could be explained by the Sexual Script Theory (Simon & Gagnon, 1986), which suggests that exposure to violent pornography reinforces sexual scripts that normalize coercion and aggression. Cultural sexual scripts in pornography frequently depict male

dominance and female submission, shaping expectations that aggressive sexual behavior is acceptable. Over time, individuals who frequently consume violent pornography may internalize these narratives, increasing the likelihood of acting out coercive behaviors in real-life sexual encounters (Vera-Gray et al., 2021). This aligns with findings that violent pornography consumption predicts both first-time and future sexual aggression, supporting the role of learned sexual scripts in shaping behavior.

However, some studies also found associations between general pornography consumption and sexual aggression, though typically with weaker effect sizes (Marshall et al., 2021). This raises important questions about whether pornography itself is a risk factor for sexual coercion, or if specific violent content plays a distinct role. Future studies should further differentiate the effects of general vs. violent pornography on sexual aggression, particularly through quasi-experimental and longitudinal designs.

### *Psychological and Social Impairments*

This review also highlighted the potential psychological and social consequences of problematic pornography use, particularly violent content. Research findings suggested that (violent) pornography users exhibit higher levels of depression, dissociation, impulsivity, problematic IP viewing, alcohol consumption and emotional dysregulation (Bernstein et al., 2023; Marshall et al., 2021; Kjellgren et al., 2010; Zheng et al., 2024). Additionally, problematic pornography use was associated with social withdrawal, relationship dissatisfaction, and risky sexual behaviors (Bernstein et al., 2022; Vasquez et al., 2024).

These findings are consistent with previous research indicating that compulsive pornography use is linked to mental health distress, including heightened anxiety, stress, and suicidal ideation (Altin et al., 2024; Love et al., 2015). Additionally, the review identified connections between violent pornography use and maladaptive interpersonal traits, such as psychopathy, low empathy and heightened sexual aggression (Ybarra & Thompson, 2018; Zheng et al., 2024). The correlation values observed in these studies again suggested weak to strong effect sizes ( $r = -.174 - .38$ ,  $p < .001$ ), reinforcing concerns that violent pornography consumption may contribute to psychological and social dysfunction.

### *Limitations and Future Directions*

While this scoping review provides valuable insights into the links between violent pornography consumption and various behavioral and psychological outcomes, several methodological limitations must be considered. A key limitation in the broader research in comparing findings on violent pornography consumption across studies is that much of the earlier research on violent pornography consumption predates the widespread accessibility of internet pornography. Many older studies (e.g., Malamuth et al., 2000; Zillmann & Bryant, 1984) focused on physical media, which may not fully capture the effects of modern pornography consumption. While the current findings align with past research in linking violent pornography to rape myth acceptance and sexual aggression, differences in accessibility, frequency of use, and exposure to more extreme content suggest that contemporary consumption patterns may alter these effects.

#### *Limitations of the Existing Literature*

The research on violent pornography consumption and its effects remains limited, with only seven eligible empirical studies included in this review. While these studies provide important insights, the small number suggests that this is an underexplored area that requires further investigation. Furthermore, most studies relied on cross-sectional questionnaire designs, making it impossible to determine whether violent pornography consumption contributes to aggression or if individuals predisposed to aggression are more likely to seek violent content. Only two longitudinal studies accounted for additional risk factors, leaving important gaps in understanding long-term effects of violent pornography consumption. There is limited experimental research on whether violent pornography contributes to aggression, actual sexual criminal behavior, and mental health impairments, with most studies relying on observational designs and self-reported data, which is prone to biases such as social desirability and recall inaccuracies. Future research could benefit from quasi-experimental designs, such as cross-national comparisons between countries with differing levels of pornography regulation but otherwise similar demographic and cultural contexts, to better infer potential causal relationships. Additionally, integrating neurobiological methods such as functional MRI (fMRI), physiological measures (e.g., heart rate, skin conductance), and behavioral assessments could help provide objective evidence on how violent pornography affects desensitization, empathy, and aggression, offering a more comprehensive understanding of its psychological and behavioral consequences.

Although the issue of convenience sampling was discussed earlier, it warrants further attention due to its central impact on the generalizability of findings in this field. Many of the reviewed studies relied on student samples or individuals with higher education. As a result, the findings may not be generalizable to individuals from different educational backgrounds, particularly those with lower education levels. This is significant because previous research has indicated that lower education levels can be associated with increased vulnerability to factors such as crime and unstable household environments (Hjalmarsson & Lochner, 2012). This is particularly concerning given that individuals with lower educational attainment, who are often underrepresented, may be more vulnerable to risk factors such as crime or unstable home environments (Hjalmarsson & Lochner, 2012). Therefore, the exclusion or underrepresentation of these groups may lead to biased conclusions and limits the study's external validity.

Finally, many studies failed to account for external influences and confounders, such as family background, history of trauma, or exposure to real-life violence, which may contribute to sexual aggression and problematic pornography consumption. Research indicates that adverse childhood experiences (ACEs), including exposure to sexual content or abuse, significantly impact problematic sexual behaviors in adulthood. A study by Brown et al. (2017) found that individuals with a history of ACEs are more prone to developing maladaptive sexual behaviors, including PPU. Similarly, Lin et al. (2020) reported that early exposure to sexual content is associated with risky sexual behaviors later in life. These findings underscore the necessity of considering family environment and trauma history when examining PPU and sexual aggression.

At the same time, while some research has explored treatment strategies for PPU (Antons et al., 2022; Rodda & Luoto, 2023), there has been limited focus on protective factors that could help mitigate its negative effects. Strong social support networks have been identified as protective against various maladaptive behaviors. Research suggested that adolescents with robust social support are less likely to engage in problematic internet use, which could extend to PPU (Wizła, et al., 2022). However, direct research linking social support to reduced PPU is limited, indicating a need for focused studies in this area. Future studies should investigate these protective factors to better understand their potential role in reducing the adverse outcomes associated with violent pornography consumption.

### *Limitations of This Scoping Review*

While this review provides valuable insights, certain methodological limitations must be acknowledged. The study was conducted as a scoping review rather than a systematic review, meaning it lacks a comprehensive quality assessment of included studies. One limitation of this review concerns the search strategy, particularly the reliance on MeSH terms. While MeSH terms help standardize and categorize research topics, they can also restrict search results when relevant studies use alternative or more recent terminology that hasn't yet been indexed accordingly. The search string should be refined and broadened in future research to minimize this risk. Additionally, the reliance on only three databases, without searching reference lists or additional sources, may have led to the omission of relevant studies, limiting the comprehensiveness of the review.

Furthermore, article selection and relevance assessment were conducted by a single researcher, introducing the possibility of selection bias and the potential influence of personal bias on study inclusion and interpretation. This limitation could result in unintentional emphasis on certain findings over others, potentially shaping the narrative of the review in a subjective manner. Future research should consider broader search strategies, involve multiple reviewers for study selection, and implement systematic methodologies to strengthen reliability and reduce potential biases. To improve transparency and thoroughness in reporting, the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews) checklist was consulted throughout the review process.

Finally, another methodological consideration relates to the interpretation of effect sizes across the included studies. While this review used established guidelines to classify the strength of correlations and odds ratios, these thresholds are context-dependent and may not fully capture the nuances of the studied phenomena. The chosen benchmarks served as a useful reference point to ensure consistency in reporting. However, they were applied across studies with differing designs, sample characteristics, and operationalizations of key constructs. This standardization, while practical, may have introduced limitations in accurately reflecting the real-world impact or meaning of certain associations. Future research should consider context-specific interpretations of effect sizes and, where possible, complement them with additional indicators of practical significance.



## *Conclusion*

This scoping review found that violent pornography consumption is prevalent among heterosexual men, with higher rates among individuals engaged in sexually coercive behaviors. Recent evidence suggests that such consumption is linked to greater acceptance of rape myths, psychological impairments, and sexually aggressive behavior, including coercion and assault. Longitudinal studies confirmed that violent pornography remained a significant predictor of sexual aggression, even after accounting for external risk factors. Interestingly, theoretical frameworks developed before the digital age, such as the Sexual Script Theory and Violent Desensitization Model, continue to provide valuable insights, highlighting the enduring relevance of established psychological theories in understanding modern online behaviors. Despite these findings, methodological limitations, such as the heavy reliance on cross-sectional designs, limited cross-cultural research, and the absence of study designs that adequately account for causality, restrict the ability to draw definitive conclusions. Future studies should focus on longitudinal, ethically and practically feasible experimental or quasi-experimental designs, and incorporate neurobiological methods such as fMRI to investigate the underlying mechanisms and potential causal effects of violent pornography consumption. Additionally, greater attention should be given to identifying protective factors and exploring interventions aimed at mitigating the potential negative effects of violent pornography consumption.

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## Appendix

### PRISMA-ScR Checklist

Table. PRISMA-ScR Checklist		
Section	Item	PRISMA-ScR Checklist Item
<b>Title</b>	1	Identify the report as a scoping review.
<b>Abstract</b>		
Structured summary	2	Provide a structured summary that includes (as applicable) background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.
<b>Introduction</b>		
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.
<b>Methods</b>		
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).
Summary measures	13	Not applicable for scoping reviews.
Synthesis of results	14	Describe the methods of handling and summarizing the data that were charted.
Risk of bias across studies	15	Not applicable for scoping reviews.
Additional analyses	16	Not applicable for scoping reviews.
<b>Results</b>		
Selection of sources of evidence	17	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.
Characteristics of sources of evidence	18	For each source of evidence, present characteristics for which data were charted and provide the citations.
Critical appraisal within sources of evidence	19	If done, present data on critical appraisal of included sources of evidence (see item 12).
Results of individual sources of evidence	20	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.
Synthesis of results	21	Summarize and/or present the charting results as they relate to the review questions and objectives.
Risk of bias across studies	22	Not applicable for scoping reviews.
Additional analyses	23	Not applicable for scoping reviews.
<b>Discussion</b>		
Summary of evidence	24	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.
Limitations	25	Discuss the limitations of the scoping review process.
Conclusions	26	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.
<b>Funding</b>	27	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.

JB1 = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

\* Where sources of evidence (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with information sources (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JB1 guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy documents).