



Adolescents, Pornography Use, and Problematic Pornography Use: A Rapid Systematic Review of Longitudinal Studies

Gemma Mestre-Bach¹ and Marc N. Potenza^{2,3,4,5,6,7}

¹Institute for Research, Transfer, and Innovation, International University of La Rioja, La Rioja, Spain

²Department of Psychiatry, Yale School of Medicine, New Haven, CT, USA

³Child Study Center, Yale School of Medicine, New Haven, CT, USA

⁴Connecticut Mental Health Center, New Haven, CT, USA

⁵Connecticut Council on Problem Gambling, Wethersfield, CT, USA

⁶Department of Neuroscience, Yale School of Medicine, New Haven, CT, USA

⁷Wu Tsai Institute, Yale University, New Haven, CT, USA

Objectives: This rapid systematic review aimed to examine longitudinal studies that assessed pornography and problematic pornography use and their associations with specific features in adolescents.

Methods: This review was conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Longitudinal studies that examined pornography or problematic pornography use in adolescents were included.

Results: Forty-four longitudinal studies were included. The main themes explored were 1) sexual behaviors; 2) sexual risk behaviors; 3) sexual satisfaction; 4) permissiveness; 5) sexual aggression, dating victimization, and rape myths; 6) academic performance; 7) COVID-19 pandemic; 8) religiosity; 9) psychopathology, psychological well-being, and life satisfaction; and 10) other factors such as desensitization to sexual content, age of first exposure, types of pornography consumed, and individual and contextual variables. The findings were heterogeneous, with some studies indicating significant association between pornography use and these variables, whereas in other areas, the results were inconsistent.

Conclusion: These findings highlight the need for further longitudinal research to clarify the relationship between types and patterns of pornography use in adolescents.

Keywords: Pornography; Problematic pornography use; Addictive behaviors; Compulsive behaviors; Compulsive sexual behaviors; Impulse control disorders; Adolescents; Longitudinal studies.

Received: March 3, 2025 / Revised: May 26, 2025 / Accepted: May 26, 2025

Address for correspondence: Marc N. Potenza, Department of Psychiatry, Yale School of Medicine, 1 Church Street, New Haven, CT 06510, USA

Tel: +1-203-737-3553, E-mail: marc.potenza@yale.edu

INTRODUCTION

Pornography refers to sexually explicit materials intended to generate arousal [1]. In recent years, there has been increasing interest in pornography use in adolescence, which is a key period for sexual development [2]. For certain adolescents, the use of pornography can develop into problematic pornography use (PPU), which is marked by continued and poorly controlled consumption that continues or escalates despite impaired functioning and/or significant emotional distress [3]. Factors associated with adolescent pornography use and PPU include sociodemographic characteristics, sexual behaviors and attitudes, religious factors, and aggressive-

ness [4,5]. However, most studies that have explored these associations have cross-sectional designs that do not allow the inference of causality. To consider the directional relationships, this rapid systematic review focused exclusively on longitudinal studies. Specifically, this rapid systematic review aims to analyze longitudinal studies examining pornography use or PPU in adolescents. A previous narrative review focusing on longitudinal studies of pornography use and adolescent attitudes and behaviors identified 20 studies and their potential associations [6]. In addition, this rapid systematic review aimed to include other topics associated with adolescent pornography use/PPU explored longitudinally.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

METHODS

Protocol

This rapid systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A rapid review is a form of knowledge synthesis that accelerates the process of conducting a traditional systematic review by streamlining or omitting specific methods to produce evidence for stakeholders in a resource-efficient manner [7].

Eligibility criteria

Study characteristics

The inclusion criteria were as follows:

(A) Population: 1) human beings, 2) community and clinical samples, 3) any sexual orientation, 4) any sex, 5) adolescents (without defining a specific age range. Instead, we considered the definitions used in the articles included in the review), and 6) any country.

(B) Assessment: articles assessing pornography use and/or PPU, including either individual items or validated psychometric instruments.

The exclusion criteria were as follows: 1) specific populations, such as individuals engaging in sexual offense; 2) articles in which pornography use was not considered a central variable of the study; 3) articles that mixed pornography use with other Internet behaviors; and 4) articles that mixed pornography use with other sex-related behaviors.

Report characteristics

The following were included: 1) peer-reviewed articles; 2) written in English or Spanish; 3) published between January 1, 2005, and February 26, 2025; 4) employed any longitudinal design (e.g., cohort and prospective studies); and 5) employed quantitative methods.

We excluded gray literature, books, book chapters, conference proceedings or abstracts, case reports, case series, meta-analyses, or systematic reviews. Additionally, articles without an abstract and those that were not full length were excluded.

Information sources and search strategy

A search was conducted using the PubMed-MEDLINE and PsycINFO databases. The full search query was “(pornography OR porn) AND (“child” or “adolescent” or “teen”) AND (longitudinal OR “cohort stud*” OR “panel stud*” OR “prospective stud*” OR “randomi* control trial” OR RCT).” The search was updated on February 26, 2025.

Study selection

Records were imported into Covidence (Veritas Health Innovation, 2024), in which duplicates were identified automatically and manually. The initial screening, full-text selection, and data extraction followed a structured process to ensure consistency. The initial and full-text screenings were conducted by a single author. In cases of uncertainty regarding the inclusion of a study, a second author was consulted to reach a consensus.

Data collection process and data items

The data extracted from the included studies included specific topics of the study, first author and year, country, pornography use/PPU, assessment of pornography use/PPU, and main results.

RESULTS

Study selection

A flowchart of the bibliographic search and extraction process is shown in Fig. 1. Forty-four studies were ultimately included in the data synthesis.

Study characteristics

The main characteristics of these studies are presented in Table 1. Most studies have been conducted in Europe (mainly in Croatia and the Netherlands). The main topics studied were pornography use/PPU and 1) sexual behaviors; 2) risky sexual behaviors; 3) sexual satisfaction; 4) permissiveness; 5) sexual aggressiveness, dating violence victimization, and rape myths; 6) academic achievement; 7) COVID-19 pandemic; 8) religiosity; 9) psychopathology, psychological well-being, and life satisfaction; and 10) other factors.

Pornography use/PPU and sexual behaviors

Several longitudinal studies have explored the association between pornography use and various adolescent sexual behaviors and attitudes. The use of online pornography directly predicts adolescents’ willingness to engage in casual sex [8]. However, no association between pornography use and adolescent sexual debut was observed in male adolescents; in female adolescents, the findings were unclear [9].

When analyzing other sexual behaviors, both male and female adolescents in the group with high use of pornography experienced faster progression to masturbation, petting, and manual sex than those with low use of pornography. Additionally, female adolescents in this group were more likely to receive oral sex, whereas male adolescents engaged in manual sex and intercourse earlier and more frequently [10]. Moreover, the progression of sexual behavior followed a linear tra-

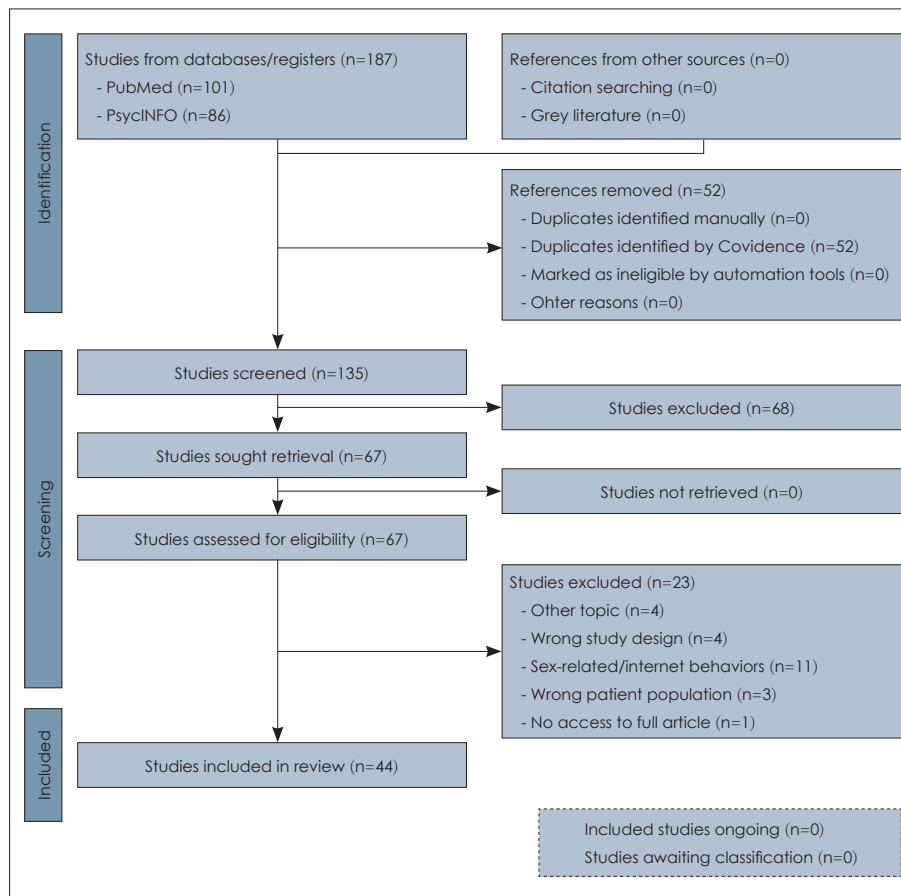


Fig. 1. PRISMA flow diagram of the studies included in this revision.

jectory, whereas exposure to pornography did not. The direction of pornography use trends varied, with Hispanic and African-American participants experiencing a decline in pornography use over the examined age range. Shifts in pornography use have been associated with changes in sexual behaviors among White individuals; however, this relationship is weak or nonexistent among Black individuals [11].

When analyzing developmental trajectories, among male adolescents, four pornography use trajectories were reported, which were labeled as “non-use/infrequent use,” “strongly increasing use,” “occasional use,” and “decreasing use” [12]. Among female adolescents, large “stable non-use/infrequent use” and small “strongly increasing use” and “stable occasional use” trajectories were observed [12]. Greater initial levels and/or increases in pornography use were predicted by factors such as stronger sexual interest, a higher degree of perceived realism regarding sexualized online content, and more permissive sexual attitudes [12]. Moreover, sex differences were found in the initial levels of, and to some extent, developmental changes in sexual behaviors in different trajectories of pornography use. While some adolescents showed concurrent low levels or strong parallel increases in pornog-

raphy use and sexual behaviors, a subgroup of male adolescents showed reduced pornography use and increases in other sexual behaviors [12].

Regarding PPU, excessive sexual interest (assessed with items such as “I think about sex a great deal of the time” and “I probably think about sex more than other people”) statistically predicted relative increases in compulsive use symptoms six months later [13].

Pornography use/PPU and risky sexual behaviors

Longitudinal associations between pornography use and risky sexual behaviors have also been explored. Moderate and frequent pornography use was associated with a greater likelihood of adolescents engaging in risky behaviors such as having multiple sexual partners or engaging in unprotected sex [14]. Moreover, sex differences have been described in the association between pornography use and risky sexual behaviors. Among male adolescents, initial pornography use was associated with changes in sexual risk-taking over time, whereas subsequent increases in pornography use were not. By contrast, among female adolescents, pornography use and sexual risk-taking were significantly associated only at

Table 1. Description of included studies (sorted by topic)

Topic	Study	Country	Assessment	pornography use/PPU	Main results
Sexual behavior	Malković et al. (2018) [9]	Croatia	Frequency of pornography use was measured using a 1-item indicator (How often did you use pornography in the past 6 months?) with an 8-point scale for anchoring answers ranging from 1=never to 8=several times a day. Pornography use was defined as any material which openly depicts sexual intercourse or other sexual acts. Material that showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined.	A consistent absence of a significant link between pornography use and sexual debuts was found in male adolescents. For female adolescents, the results were unclear.	
Sexual behavior	Frone et al. (2022) [10]	Netherlands	One item: "How often do you use the internet to view a pornography Web site (a Web site with pictures or movies that show nudity or people having sex)?" Responses were measured on a 6-point scale ranging from 0=never to 5=three times a week or more.	Compared to peers with low pornography use, both boys and girls in the high-use group experienced faster development of masturbation, peffling, and receiving manual sex. Additionally, girls in this group were more likely to receive oral sex, while boys engaged in manual sex and intercourse earlier and more frequently.	
Sexual behavior	Doomwaard et al. (2015) [12]	Netherlands	Adolescents' pornography use was assessed with one item: "Many teenagers sometimes look at pornography on the internet. We would like to know how this is for you. How often do you use the internet to view a porn Web site (a Web site with pictures or movies that show nudity or people having sex)?" The response categories were 1=never, 2=less than once a year, 3=less than once a month, 4=one to three times a month, 5=once or twice a week, 6=three times a week or more.	Among boys, four pornography-use trajectories were identified, which were labeled Non-use/Infrequent Use, Strongly Increasing Use, Occasional Use, and Decreasing Use. Among girls, a large Stable Non-use/Infrequent Use and smaller Strongly Increasing Use and Stable Occasional Use trajectories were found. Greater initial levels and/or stronger increases in pornography use were statistically predicted by demographic, social contextual, personal, and media use characteristics, including stronger sexual interest, a higher degree of perceived realism regarding sexualized online content, and more permissive sexual attitudes. Moreover, initial levels of, and to some extent developmental changes in, sexual behavior varied for boys and girls in the different pornography-use trajectories. Whereas some adolescents showed concurrent low levels, or parallel strong increases in pornography use and sexual behavior, a subgroup of boys decreased their pornography use while increasing their other sexual behaviors. Longitudinally, higher levels of depressive feelings and excessive sexual interest statistically predicted relative increases in compulsive use symptoms 6 months later.	
Sexual behavior	Doomwaard et al. (2016) [13]	Netherlands	Six items from the Compulsive Internet Use Scale	Lower sexual satisfaction (in Wave 2) was linked to increased pornography use (in Wave 3). Negative effects of pornography use on sexual satisfaction appeared stronger for adolescents who had no or limited sexual experience. Effects of pornography use on sexual satisfaction appeared similar among boys and girls.	
Sexual behavior	Peter and Valkenburg (2009) [17]	Netherlands	Respondents were asked to indicate how often, in the 6 months prior to the interview, they had intentionally looked at 1) pictures with clearly exposed genitals; 2) movies with clearly exposed genitals; 3) pictures in which people are having sex; and 4) movies in which people are having sex. The question was about sexually explicit, pornographic content on or from the internet. They were also told that looking at such content did not imply being online but could also refer to sexually explicit material downloaded from the internet. Further, adolescents were explained that genitals referred to the penis and the vagina and that "having sex" implied vaginal, anal, or oral penetration. The response categories were 1=never, 2=less than once a month, 3=1-3 times a month, 4=once a week, 5=several times a week, 6=every day, and 7=several times a day.	Exposure to online pornography use directly statistically predicted adolescents' willingness to engage in casual sex.	
Sexual behavior	van Oortsen et al. (2017) [8]	Netherlands	Exposure to sexually explicit internet material was measured by asking participants how often in the previous 6 months they had intentionally looked at sexually explicit content (e.g., pornographic material, not nudity) on their computer, either online or offline (e.g., downloaded material). Sexually explicit content was specified as 1) pictures with clearly exposed genitals, 2) movies with clearly exposed genitals, 3) pictures in which people were having sex, and 4) movies in which people were having sex. Response categories ranged from 1=several times a day to 7=never.	The progression of sexual behavior followed a linear trajectory, whereas exposure to sexual media content did not. The direction of exposure patterns varied, with Hispanic and African American participants experiencing declines in exposure over the examined age range. While shifts in exposure to sexual content were strongly linked to changes in sexual behavior among White individuals, this relationship was weak or nonexistent among Black individuals.	
Sexual behavior	Hennessy et al. (2009) [11]	US	To calculate the sexual content exposure measure, the cross-product of the exposure measure and the sexual content rating for each title was summed within each type of media, resulting in sex content exposure measures specific to television, music, magazines, and videogames.	Boys showed increasing pornography use over 18 months, which correlated with more permissive attitudes and sexual behavior, with pornography use statistically predicting permissive attitudes. However, no consistent link was found between pornography use and sexual behavior. Girls had low pornography use, and their permissive attitudes decreased, with no long-term relationship between pornography use and their sexual attitudes or behavior.	
Sexual behavior and sexual permissiveness	Doomwaard et al. (2015) [19]	Netherlands	"Many teenagers sometimes look at pornography on the internet. We would like to know how this is for you. How often do you use the internet to view a porn website (a website with pictures or movies that show nudity or people having sex)?" Response categories were 1=never, 2=less than once a year, 3=less than once a month, 4=one to three times a month, 5=once or twice a week, and 6=three times a week or more.	No significant pathways were found linking pornography use to sexual permissiveness. However, the connection from sexual permissiveness to pornography use was significant among female participants in the Zagreb sample and male participants in the Rijeka sample.	
Sexual permissiveness	Martyniuk and Stulhofer (2018) [18]	Croatia	Frequency of pornography use in the past 6 months was measured on a scale ranging from 1=not once to 8=several times a day. Pornography was defined as any material which openly (i.e., not censored) depicts sexual activity. Material that showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined.		

Table 1. Description of included studies (sorted by topic) (continued)

Topic	Study	Country	Assessment: pornography use/PPU	Main results
Risky sexual behavior	Mubashera (2024) [1,4]	US	Number of X-rated pornographic movies, videos, or cable programs they had watched (if any) in the last year.	Moderate and frequent pornography use was associated with a higher likelihood of engaging in behaviors such as unprotected sex and having multiple sexual partners. The sex-based heterogeneity analysis suggested that boys and girls responded differently to pornography use, though this difference is evident in only a few indicators of risky sexual behavior.
Risky sexual behavior	Koletic et al. (2019) [1,5]	Croatia	Pornography use was measured at each time point and defined in the questionnaire as "any material which openly (i.e., not censored) depicts sexual activity. Material which showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined." To avoid possible confusion among participants, more understandable term "pornography" was used in the questionnaires. The item: "How often have you used pornography during the last 6 months?", included the following responses: 1=never, 2=several times, 3=once a month, 4=2-3 times a month, 5=once a week, 6=several times a week, 7=every day or almost every day, and 8=several times a day.	For male adolescents, initial pornography use was associated with changes in sexual risk-taking over time, whereas subsequent increases in use were not. In contrast, for female adolescents, pornography use and sexual risk-taking were significantly linked only at the baseline measurement.
Sexual aggressiveness	Dawson et al. (2019) [20]	Croatia	To assess the frequency of pornography use (which was defined in the questionnaire as any material which openly depicts sexual activity; material which showed naked bodies, but not sexual intercourse or other sexual activity did not belong to pornography as here defined) participants were asked the following question at each study wave: "How often have you used pornography during the last 6 months?". Response options ranged from 1=not once to 8=several times a day.	Adolescents with low or no sexual aggressiveness reported significantly lower initial pornography use than those with higher aggressiveness, a difference unaffected by personality traits. Bullying and peer pressure predicted initial pornography use but not its change over time. Without controls, pornography use slightly increased among less aggressive adolescents but decreased among those with moderate aggressiveness.
Sexual aggressiveness	Štulhofer (2021) [21]	Croatia	Pornography use was defined in the questionnaire as any material which openly depicts sexual activity; material which showed naked bodies, but not sexual intercourse or other sexual activity did not belong to pornography as here defined and measured with a single item asking about the frequency of use in the past 6 months. Response options were 1=not once, 2=a few times, 3=once a month, 4=2-3 times a month, 5=once a week, 6=several times a week, 7=every day or almost every day, and 8=several times a day.	Callousness, rather than pornography use, was a significant predictor of sexual aggressiveness 11 months later. Callousness also moderated the relationship between pornography use and sexual aggressiveness, such that among participants with high callousness, more frequent pornography use was associated with a lower likelihood of reporting sexual aggressiveness.
Sexual aggressiveness	Kohut et al. (2021) [22]	Croatia	After defining pornography as "any material which openly depicts sexual activity; material which showed naked bodies, but not sexual intercourse or other sexual activity did not belong to pornography as here defined," participants were asked about the frequency of use in the past 6 months. Response options ranged from: 1="not once" to 8="several times a day."	Although a connection between hostile masculinity and self-reported sexual aggression was identified in both panels, there was no evidence to suggest that impersonal sexuality or pornography use raised the likelihood of later reporting sexual aggression, regardless of the participants' inherent risk factors.
Sexual aggressiveness	D'Abreu and Kriahé (2014) [23]	Brazil	Pornography use was measured by eight items. Two questions were asked with four subcategories each: (1) "Have you ever seen images of sexual intercourse... (a) on TV, (b) on the Internet, (c) on the cell phone, and (d) in books or magazines"; (2) "Have you ever seen images of other sexual acts (e.g., oral sex, masturbation) (a) on TV, (b) on the Internet, (c) on the cell phone, and (d) in books or magazines"; Response options for all items ranged from 1=never to 5=very often.	Pornography use at T1 was significantly associated with T2 sexual aggression via the indirect path through sexual scripts and sexual behavior.
Sexual aggressiveness	Ybarra et al. (2011) [24]	US	Three different mediums: 1) Have you watched an X-rated movie at a friend's house, your house, or in the theatre where the main topic was sex? 2) Have you looked at an X-rated magazine, like Playboy, on purpose where you knew that the main topic was sex? and 3) Have you gone to or seen an X-rated or "adult" website where the main topic is sex?	Repeated intentional exposure to violent pornography was associated with nearly a sixfold increase in the likelihood of self-reported sexually aggressive behavior. In contrast, exposure to nonviolent pornography showed no statistically significant relationship. These associations were consistent for both boys and girls.
Sexual aggressiveness	Waterman et al. (2022) [26]	US	One question, "In the past 6 months, have you looked at pornographic or X-rated materials (where the main topic was sex or nudity)?" Response options were 1=yes and 0=no.	The findings revealed significant reciprocal relationships between pornography consumption and sexual harassment perpetration, with stronger effects observed among male adolescents. Additionally, some significant links were found between pornography use and later sexual assault perpetration.
Dating violence victimization	Martel et al. (2024) [27]	Canada	"For the following questions, the term 'pornography' is used to refer to: intentionally looking at or listening to: (1) pictures or videos of nude individuals, (2) picture or videos in which people are having sexual activities." They were then asked to answer an item about lifetime pornography use: "Have you ever watched pornography in your life?" (0=no; 1=yes). If the participant answered "yes," they were asked to report their age when they first used pornography ("How old were you the first time you watched pornography?"). The following question was asked to evaluate the frequency of pornography use: "On average in the last 3 months, how many times did you watch pornography?". Youth were asked to respond using an 8-point Likert-type scale ranging from 0=never to 7=many times per day.	There was no significant long-term relationship between pornography consumption and any of the three types of dating violence victimization, regardless of gender. This suggests that pornography use may not be a substantial risk factor for dating violence victimization in adolescents over time.

Table 1. Description of included studies (sorted by topic) (continued)

Topic	Study	Country	Assessment	pornography use/PPU	Main results
Rape myth	Vangeel et al. (2020) [28]	Belgium	On a 7-point scale, participants indicated at each wave how often they visited four types of pornographic content on the internet, i.e., pictures with clearly exposed genitals, videos with clearly exposed genitals, pictures in which people are having sex, and videos in which people are having sex. The response options ranged from never (=1) to several times a day (=7).	Adolescents' online pornography use relative to their same-aged peers did not predict their acceptance of gendered sexual roles or rape myths in emerging adulthood.	
Preference for violent pornography	Landripet et al. (2019) [25]	Croatia	Frequency of pornography use was measured using a single-item indicator (How often did you use pornography in the past 6 months?). Responses were anchored on an 8-point scale with answers ranging from 1=never to 8=several times a day.	Over time, the inclination toward violent or coercive pornography declined.	
Academic achievement	Šević et al. (2020) [30]	Croatia	Frequency of pornography use was measured using a 1-item indicator (How often did you use pornography in the past 6 months?). Answers were anchored on an 8-point scale (1=never, 2=several times, 3=once a month, 4=2–3 times a month, 5=once a week, 6=several times a week, 7=every day or almost every day, and 8=several times a day).	Pornography use did not predict any change in students' academic performance in either panel. However, a negative relationship between the use of online social networking sites and school grades was consistently significant across both panels.	
Age at first exposure	Cramey et al. (2018) [34]	Croatia	Pornography was defined as any material which openly (i.e., not censored) depicted sexual activity; materials that showed naked bodies, but which did not show sexual intercourse or other sexual activity did not belong to pornography as here defined. A single-item measure was used to assess the frequency of pornography use in the past 6 months. Answers were recorded on an 8-point scale: 1="not once"; 2="several times"; 3="once a month"; 4="2–3 times a month"; 5="once a week"; 6="several times a week"; 7="every day or almost every day"; and 8="several times a day." Pornography use was assessed at every wave. The timing of first exposure to pornography—which was used as a covariate of longitudinal association between religiosity/faith and pornography use—was assessed with the following question: "How old were you when you first saw, accidentally or deliberately, a pornographic movie or a video—even if only a part of it?". An 8-point scale ranging from 1=never to 8—at the age of 16 or older was used to anchor answers.	The findings highlighted the significant role of age at first exposure to pornography in influencing its frequency of use during middle to late adolescence.	
Religiosity	Kohut and Sulhofer (2018) [33]	Croatia	Pornography use was assessed at each wave in both panels with the item, "How often have you used pornography during the last 6 months?". Scale response options included: 1="not once"; 2="several times"; 3="once a month"; 4="2–3 times a month"; 5="once a week"; 6="several times a week"; 7="every day or almost every day"; and 8="several times a day." In the questionnaire, pornography was defined as any material which openly (i.e., not censored) depicts sexual activity; material which showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined.	The increase in pornography use was mainly observed among more religious male adolescents with compulsive use. Compared to their non-religious counterparts with compulsive use, these adolescents began with lower initial levels of pornography use, but their usage increased over time at a faster rate.	
Religiosity	Cramey et al. (2018) [34]	Croatia	5-Item Compulsive Pornography Consumption scale Pornography was defined as any material which openly (i.e., not censored) depicted sexual activity; materials that show naked bodies, but which did not show sexual intercourse or other sexual activity did not belong to pornography as here defined. A single-item measure was used to assess the frequency of pornography use in the past 6 months. Answers were recorded on an 8-point scale: 1="not once"; 2="several times"; 3="once a month"; 4="2–3 times a month"; 5="once a week"; 6="several times a week"; 7="every day or almost every day"; and 8="several times a day." Pornography use was assessed at every wave. The timing of first exposure to pornography—which was used as a covariate of longitudinal association between religiosity/faith and pornography use—was assessed with the following question: "How old were you when you first saw, accidentally or deliberately, a pornographic movie or a video—even if only a part of it?". An 8-point scale ranging from 1=never to 8—at the age of 16 or older was used to anchor answers.	Religiosity declined while pornography use increased among both male and female adolescents, but these trends were independent of each other, suggesting that other (unmeasured) factors may be driving both the sexualization and secularization of adolescents. The findings highlighted the significant role of age at first exposure to pornography in relating to its frequency of use during middle to late adolescence.	
Religiosity	Rousseau et al. (2021) [35]	Croatia	Frequency of pornography use was assessed at all six waves by asking the following question: "How often have you used pornography during the last six months?". Answers were anchored on an 8-point scale: 1="not once"; 2="several times"; 3="once a month"; 4="2–3 times a month"; 5="once a week"; 6="several times a week"; 7="every day or almost every day"; and 8="several times a day." Pornography was defined for participants as any material which openly (i.e., not censored) depicted sexual activity; material which showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined. Brief Compulsive Pornography Consumption scale	Laten growth curve modeling revealed that initial levels of, and subsequent increases in pornography use statistically predicted higher levels of PPU later on, regardless of participants' religiosity, negative emotions, and impulsivity. Religiosity played a moderating role in the relationship between changes in PU and PPU. An increase in PU led to higher PPU among more religious adolescents compared to their less religious counterparts.	

Table 1. Description of included studies (sorted by topic) (continued)

Topic	Study	Country	Assessment: pornography use/PPU	Main results
Religiosity	Rasmussen and Bierman (2016) [34]	Canada	Yearly consumption of X-rated videos: "About how many, if any, X-rated pornographic movies, videos, or cable programs have you watched in the last year?". To avoid the influence of outliers, responses above ten were recoded to ten.	Higher levels of religious attendance were associated with lower pornography consumption, especially for boys, and religious attendance also was linked to lower age-related increases in pornography use for both boys and girls.
Types of pornography	Vandenbosch (2015) [43]	Netherlands	A 10-item scale appropriate for use in an adolescent sample was constructed. Any use of pornographic, slang, and foul language or words that could upset adolescents were avoided. Adolescents who reported to have used pornography during the last six months either deliberately or accidentally were asked to rate the extent to which the ten items were applicable to the internet sex that they had encountered (through images or movies). Participants used a 7-point Likert scale including the options totally not applicable (=1), not applicable (=2), hardly applicable (=3), a little bit applicable, a little bit not applicable (=4), somewhat applicable (=5), applicable (=6), and totally applicable (=7).	Younger adolescents were more often exposed to affection-themed pornography, while older adolescents and adolescents with higher levels of academic achievement were more frequently exposed to dominance-themed pornography.
Desensitization to sexual content	Daneback et al. (2018) [42]	Czech Republic	In each wave, respondents were asked whether they had seen 1) pictures or videos of someone naked, 2) pictures or videos depicting genitals or 3) pictures or videos of people having sex together on the internet in past 6 months. They were given response options ranging from never (=1) to daily (=6), plus the option "I don't want to answer", which was coded as missing values. In each wave, respondents who had seen any sexual content online were subsequently asked on which platform they had seen it and whether this was intentional or not (i.e., 1) "I haven't seen it", 2) "Yes, it was my purpose to see it", and 3) "Yes, but it wasn't my purpose to see it"). Response options regarding platforms were: 1) in a pop-up web window; 2) on sites with sexual content intended for adults; 3) on sites for sharing files (e.g., Ulozto, Rapidshare, Czhshare); 4) on sites with various videos (e.g., YouTube, Stream.cz); 5) on a social network (e.g., Facebook, Libimseticz, Lite.cz); 6) through a link someone sent me; 7) in an e-mail attachment; and 8) somewhere else.	Respondents' views on online pornography use shifted over time, influenced by age, frequency of exposure, and whether the exposure was intentional. Adolescents became less affected by the sexual content, suggesting a desensitization process.
COVID-19	Bölte et al. (2022) [31]	Canada	Past-three-month pornography use frequency was assessed with one item, using an 8-point scale: "On average in the last three months, how many times did you watch pornography?; 0=never; 7=many times per day." Short, 8-item version of the Pornography Use Motivations Scale	No significant changes were observed in the frequency of adolescents' pornography use or their motivations for using it, and no sex differences were found in these patterns. Although a statistically significant slight decrease was noted in boys' PPU levels, and a statistically significant slight increase was observed in girls' PPU levels, these changes were minimal and had limited practical or clinical significance.
COVID-19	Maes and Vandenbosch (2022) [32]	Belgium	Adolescents' pornography use was assessed using Peter and Valkenburg's (2008) [52] 4-item scale. In the three waves, respondents indicated how many times, in the past five months, they had looked at the following content online: 1) pictures with clearly exposed genitals, 2) videos with clearly exposed genitals, 3) pictures in which people were having sex, and 4) videos in which people were having sex. A 7-point Likert scale ranging from never (=1) to several times a day (=7) was used.	Pornography use did not show a significant increase over the 15-month period during the COVID-19 pandemic. Sex was the only factor that statistically predicted changes in pornography use, with girls exhibiting a more notable and increasing frequency of use compared to boys.
Internet addiction	Alexandrou et al. (2018) [41]	Greece	Participants reported as their most preferred (most used) internet application (e.g., they had visited most frequently in the last 6 months) choosing one of the following options: 1) social networking sites and blogs, 2) e-mails and instant messengers, 3) downloading videos or music, 4) information seeking, 5) online gaming, 6) internet pornography, and 7) other. Examples were provided following each option (e.g., for internet pornography viewing: thesextube.net, xtube.com, sextube.si, etc.). For consistency with the literature, internet pornography viewing was defined to the participants as viewing online or downloading pictures and videos with clearly exposed genitals and/or pictures or videos in which people were having sex (with the intention of eliciting a sexual reaction; Peter and Valkenburg, 2009 [17]).	Online pornography use seemed to exacerbate the risk of internet addiction over time, while personal factors, such as the average level of openness to experience and introversion, differentially moderate this relationship.
Family functioning and positive youth development	Ma and Shek (2013) [44]	Hong Kong	Twelve items were used to assess students' consumption of 2 types of pornographic materials during the prior year. They were internet pornography (e.g., pornographic stories, pictures, videos, and websites) and traditional pornography (e.g., pornographic movies, rental films, movies on cable TV, magazines, books, and comics). Participants answered on a 6-point Likert-scale (0=never, 1=less than 1 time a month; 2=about 1 time a month; 3=3 times a month; 4=several times a month; and 5=daily).	Family functioning and positive youth development were negatively associated with pornography use over time.

Table 1. Description of included studies (sorted by topic) (continued)

Topic	Study	Country	Assessment	ppmography use/PPU	Main results
Sexual satisfaction	Milas et al. (2020) [16]	Croatia	The frequency of pornography use was assessed with the following question: "How often have you used pornography during the last 6 months?". In the questionnaire, pornography was defined as "any material which openly depicts sexual activity; material which shows naked bodies but not-sexual intercourse or other sexual activity does not belong to pornography as here defined." Response options were as follows: 1=not once, 2=several times a month, 3=once a month, 4=2-3 times a month, 5=once a week, 6=several times a week, 7=every day or almost every day, and 8=several times a day.	Assessment of pornography use during the last 6 months	No significant association was found between changes in the frequency of adolescents' pornography use over time and their sexual satisfaction at Wave 6. No link was observed between initial levels of pornography use and sexual satisfaction. These patterns were similar across sexes.
Question-behavior effect	Koletic et al. (2019) [48]	Croatia	Pornography use was measured at each time point and defined as any material that openly (i.e., not censored) depicted sexual activity. Material that showed naked bodies but not sexual intercourse or other sexual activities did not belong to pornography as here defined. Frequency of pornography use was assessed by an 8-point scale ranging from never (=1) to several times a day (=8).	Frequency of pornography use	No evidence that surveying adolescent pornography use increased participants' reports of subsequent use was found.
Psychopathology	Mattabo et al. (2018) [40]	Sweden	Participants reported the frequency of their pornography consumption. The response options were: never (=0), once a year or less (=1), a few times a year (=2), a few times a month (=3), weekly (=4), daily (=5), or several times daily (=6).	Frequency of pornography consumption	Higher pornography consumption at baseline, being female, living with separated parents, and attending a vocational high school program were statistical predictors of psychosomatic symptoms at follow-up. In contrast, lower baseline pornography consumption and being female were associated with increased depressive symptoms at follow-up.
Psychological well-being	Štulhofer et al. (2019) [37]	Croatia	The frequency of pornography use was assessed with the following question: "How often have you used pornography during the last 6 months?". Preceding the question, pornography was defined in the questionnaire as any material which openly depicted sexual activity; material which showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined. Response options included: 1=not once, 2=several times a month, 3=once a month, 4=2-3 times a month, 5=once a week, 6=several times a week, 7=every day or almost every day, and 8=several times a day.	Frequency of pornography use	No significant relationship was found between increases in pornography use and changes in the two measures of psychological well-being over time for either male or female participants.
Psychological well-being	Ma (2019) [38]	China	Adolescents' intentional exposure to online pornography was measured with 6 items, which focused on the frequency of intentional exposure to 1) online pornographic stories, 2) pornographic pictures, 3) pornographic videos, 4) pornographic advertisement, 5) pornographic websites, and 6) online sex chat (e.g., "How often you were intentionally exposed to online pornographic stories over the past six months"). Same questions were asked for non-intentional exposure to online pornographic materials. Response options were 0=never, 1=at least once a month, 2=1-3 times a month, 3=at least once a week, 4=several times a week, 5=every day.	Intentional pornography use	Intentional pornography use appeared to be linked to poorer psychological well-being.
Life satisfaction	Peter and Valkenburg (2011) [39]	Netherlands	Participants were asked how often, in the 6 months prior to the interview, they had intentionally looked at (1) pictures with clearly exposed genitals; (2) videos with clearly exposed genitals; (3) pictures in which people were having sex; and (4) videos in which people were having sex.	Frequency of intentional exposure to pornography	Lower life satisfaction was linked to increased pornography use.
NonConsensual Forwarding of Sex	van Oosten and Vandembosch (2020) [47]	Netherlands	How often in the previous 2 months participants had intentionally looked at sexually explicit content (i.e., pornographic material, not nudity) on their computer, either online or offline (i.e., downloaded material) (cf. Peter and Valkenburg (2010) [53], Peter and Valkenburg (2011) [54]). Sexually explicit content was specified as (1) pictures in which people were having sex, and (2) movies in which people were having sex. Items about pictures and movies of clearly exposed genitals, often used in previous pornography use measures, were left out of the scale for the current analyses, given the conceptual overlap of such items with sexting. For both types of sexual content, the response categories were 1=several times a day, 2=every day, 3=several times a week, 4=once a week, 5=1-3 times a month, 6=less than once a month, and 7=never.	Frequency of pornography use	Pornography use was a significant statistical predictor of increased willingness to forward sexts from a stranger, particularly among adolescent boys (ages 13-17) who held strong instrumental views on sex.
Body appreciation	Paquette et al. (2023) [46]	Canada	Definitions before answering any pornography-related questions: "For the following questions, the term 'pornography' is used to refer to intentionally looking at or listening to 1) pictures or videos of nude individuals, 2) pictures or videos in which people are having sexual activities." Pornography use frequency was assessed with two items. The first item was related to lifetime pornography use ("Have you ever watched pornography in your life?"). Participants could indicate "yes" or "no." The second item was related to the frequency of use in the last three months ("On average in the last three months, how many times did you watch pornography?") on an 8-point scale from 0=never to 7=many times per day.	Body appreciation	Over time, pornography use frequency and body appreciation were not significantly related among adolescents of different sexual orientations.

Table 1. Description of included studies (sorted by topic) (continued)

Topic	Study	Country	Assessment: pornography use/PPU	Main results
Pornography realism	Wright and Stulhofer (2019) [45]	Croatia	How often participants had consumed pornography in the last six months.	A growth in pornography use was observed in both girls and boys, alongside a significant but non-linear decline in perceptions of pornography as realistic.
Hypergendered orientation and impersonal sex	van Oosten (2016) [49]	Netherlands	How often in the previous 6 months they had intentionally looked at sexual content on their computer, either online or offline (i.e., downloaded material), and in a separate question how often they encountered such content accidentally.	Pornography use statistically predicted sexual uncertainty only in girls with low hyper-gendered orientation (hyper-femininity) and those with a relatively high preference for impersonal sex.
Multiple factors	Shek et al. (2015) [50]	China	Six items were used to assess consumption of six different types of online pornographic materials, and another six items were used to assess the access to pornographic materials via six different traditional mass media. Adolescents' responses were scored from 1 to 6 indicating their frequency of accessing these materials (1=never, 2=less than once a month, 3=once to three times a month, 4=once a week, 5=several times a week, and 6=daily).	The initial level of pornography use in early adolescence, along with sex, positive youth development features, and family functioning, related to pornography consumption in middle adolescence.
Multiple factors	Shek and Ma (2016) [51]	China	Rate the frequency of consuming pornographic materials with reference to a typical week (six items for online pornography; six items for traditional pornography) using a 6-point Likert scale from 0="never" to 5="daily."	Pornography use increased during the high-school years. Sex, family structure, and positive youth development statistically predicted changes in pornography use over time.
Multiple factors	Beyens et al. (2015) [29]	Belgium	Seven-point scale (never=1 through several times a day=7), how often during the past 6 months participants had intentionally exposed themselves to 1) pictures with clearly exposed genitals, 2) videos with clearly exposed genitals, 3) pictures in which people are having sex, and 4) videos in which people are having sex (Peter and Valkenburg (2008) [52], Peter and Valkenburg (2008) [55]; $\alpha=0.91$; $M=2.01$, $SD=1.25$).	The use of online pornography was related to pubertal timing and sensation-seeking. Boys at a more advanced pubertal stage and those with higher sensation-seeking tendencies engaged in online pornography more often. Increased online pornography use was associated with a decline in boys' academic performance six months later.
Multiple factors	Rousseau et al. (2021) [35]	Croatia	Frequency of pornography use was assessed at all six waves by asking the following question: "How often have you used pornography during the last six months?"; Answers were anchored on an 8-point scale: 1="not once"; 2="several times"; 3="once a month"; 4="2-3 times a month"; 5="once a week"; 6="several times a week"; 7="every day or almost every day"; and 8="several times a day." Pornography was defined for participants as any material which openly (i.e., not censored) depicted sexual activity; material which showed naked bodies but not sexual intercourse or other sexual activity did not belong to pornography as here defined.	Baseline higher levels of negative emotions and impulsivity statistically predicted higher levels of PPU three years later, even after controlling for growth in pornography use over time.

M, mean; PPU, problematic pornography use; PUI, pornography use; SD, standard deviation

baseline [15].

Pornography use and sexual satisfaction

The association between pornography use and sexual satisfaction is heterogeneous. One study found no relationships between changes in pornography use over time and sexual satisfaction, and these patterns were consistent across the sexes [16]. In another study, decreased sexual satisfaction was longitudinally associated with increased pornography use [17]. The negative effect of pornography on sexual satisfaction is more pronounced among adolescents with little to no sexual experience. No sex differences were found in the potential effects of pornography use on sexual satisfaction [17].

Pornography use and permissiveness

Heterogeneous results have been reported on the longitudinal relationship between pornography use and sexual permissiveness. One study found no significant pathways associating pornography use with sexual permissiveness [18]. However, another study found that adolescent pornography use statistically predicted permissive attitudes [19].

Pornography use, sexual aggressiveness, dating violence victimization, and rape myths

Longitudinal studies have explored the relationship between pornography use and sexual aggressiveness. Dawson et al. [20] examined how pornography use evolved over time in relation to sexual aggressiveness in male adolescents. Adolescents with little to no sexual aggression showed a slight increase in pornography use, whereas those with higher but inconsistent levels of sexual aggressiveness demonstrated a decline. When analyzed alongside the findings that included control variables, these results did not support a positive dynamic relationship between pornography use and sexual aggressiveness in male adolescents. Štulhofer [21] observed that pornography use was not a statistically significant predictor of sexual aggressiveness 11 months later in male adolescents. However, callousness was identified as a significant predictor of sexual aggressiveness, moderating the relationship between pornography use and sexual aggressiveness. Furthermore, Kohut et al. [22] did not find that pornography (as with impersonal sexuality) was longitudinally associated with an increased likelihood of sexual aggression. However, they observed an association between hostile masculinity and sexual aggression.

However, another study identified pornography-aggression links, with pornography use at T1 being significantly associated with T2 sexual aggression via an indirect path through sexual scripts and behaviors [23]. Similarly, in another study, repeated intentional exposure to violent pornography was

associated with a nearly six-fold increase in the likelihood of self-reported sexually aggressive behaviors [24]. By contrast, exposure to nonviolent pornography showed no statistically significant relationship. These associations were observed in both males and females [24]. However, over time, inclinations toward violent or coercive pornography have declined in male adolescents [25]. In another study, significant reciprocal relationships were observed between pornography use and sexual harassment perpetration, with stronger effects observed among male adolescents. In addition, significant relationships were found between pornography use and subsequent sexual assault perpetration [26].

Dating violence victimization has also been longitudinally examined. There was no significant long-term relationship between pornography consumption and any type of dating violence victimization in males or females [27]. This finding suggests that pornography use may not be a substantial longitudinal risk factor for dating violence victimization in adolescents. Regarding rape myths, adolescents' exposure to online pornography, compared to their peers of the same age, did not influence their acceptance of gendered sexual roles or rape myths in early adulthood [28].

Pornography use and academic achievement

Studies that analyze pornography use and academic achievement among adolescents have not reached clear conclusions. One study reported that increased use of online pornography was associated with decreased academic performance in male adolescents six months later [29]. However, another study suggested that pornography use did not predict changes in students' academic performance over time [30]. Therefore, the authors suggest that the potential relationships between pornography use and male academic achievement are not significant during middle adolescence [30].

Pornography use/PPU and the COVID-19 pandemic

Studies investigating the use of pornography in adolescents during the COVID-19 pandemic have found no changes in patterns of use. Böthe et al. [31] analyzed the potential changes in pornography consumption frequency, motivations, and PPU in adolescents before and during the COVID-19 pandemic (between November 2019 and June 2021). No significant changes were observed in the frequency of adolescent pornography use or their motivations for using it, and no sex differences were found. Similarly, a study by Maes and Vandebosch [32] reported that pornography use did not significantly increase over a 15-month period during the COVID-19 pandemic. The authors highlighted sex as the only factor that statistically predicted changes in pornography use, with female adolescents exhibiting a more notable and increas-

ing frequency of use than male adolescents. Therefore, the COVID-19 pandemic and the related lockdowns may not have increased adolescent pornography use.

Pornography use/PPU and religiosity

While some studies have reported that more religious adolescents experience a greater increase in pornography use over time [33], others have noted that religiosity may lessen the increase in pornography use [34]. Specifically, when analyzing the associations between PPU and religiosity, Kohut and Štulhofer [33] observed that an increase in pornography use was primarily seen in religious adolescent males with compulsive use. In contrast to their nonreligious peers with compulsive use, these adolescents started with lower levels of pornography use but experienced a faster rate of increase over time. Thus, the moderating role of religiosity in the relationship between changes in pornography use and PPU has been described [35]. An increase in pornography use may lead to higher PPU among religious adolescents than among their less religious counterparts. By contrast, Rasmussen and Bierman [34] found that higher levels of religious attendance were associated with lower pornography use, particularly in male adolescents. Religious attendance was also associated with reduced age-related increases in pornography use in male and female adolescents. In this study, pornography use increased throughout adolescence and into early adulthood; however, involvement in a religious community seemed to reduce this increase.

In addition, Cranney et al. [36] observed that religiosity declined over time, whereas pornography use increased in both male and female adolescents. However, these patterns were independent of each other, suggesting that other factors might drive both sexualization and secularization in adolescents.

Pornography use, psychopathology, psychological well-being, and life satisfaction

Regarding psychological well-being, one study found no significant relationship between increased use of pornography and changes in the two measures of psychological well-being over time in either male or female participants [37]. However, another study found that intentional pornography use is associated with poor psychological well-being [38]. Lower life satisfaction may increase pornography use [39].

When exploring psychopathology, higher pornography consumption at baseline, being female, living with separated parents, and attending a vocational high school statistically predicted psychosomatic symptoms at follow-up. By contrast, lower baseline pornography use and being female were associated with increased depressive symptoms at follow-up [40]. Moreover, online pornography use may exacerbate the risk

of Internet addiction over time, whereas classroom factors such as levels of openness to experience and introversion differentially moderated this relationship [41].

Pornography use/PPU and other factors

Pornography use and desensitization to sexual content

Over time, adolescents' perspectives on online pornography use may change, as shaped by factors such as age, exposure frequency, and intentional exposure to pornography [42]. Adolescents were less disturbed by sexually explicit materials, suggesting a process of desensitization to/normalization of the content over time [42].

Pornography use, age at first exposure, and types of pornography

The role of age at first exposure to pornography in influencing the frequency of use during middle-to-late adolescence was identified in a longitudinal study [36]. Regarding types of pornography, younger adolescents were more often exposed to affection-themed pornography (assessed using items of "romance" and "love"), whereas older adolescents and adolescents with higher levels of academic achievement were more frequently exposed to dominance-themed pornography (assessed using the items "dominant men" and "dominant women") [43].

Other factors

Various factors are associated with the use of pornography and its effects over time. Negative emotions and impulsivity predicted the development of PPU [35], whereas advanced puberty and sensation seeking were associated with increased online pornography consumption [29]. Family functioning and positive youth development are inversely associated with the longitudinal use of pornography [44]. An increase in pornography consumption was observed in both sexes, accompanied by a significant but nonlinear decline in perceptions of the realism of pornography [45]. Frequency of use of pornography and body appreciation showed no significant relationships among adolescents with different sexual orientations [46]. Pornography use statistically predicted a greater willingness to forward sexts from a stranger, particularly among male adolescents (aged 13–17 years) with strong instrumental attitudes toward sex [47].

LIMITATIONS AND FUTURE STUDIES

An important limitation of the studies included in this rapid systematic review is the method used to assess the use of pornography. Most studies rely solely on single-frequency

items, which fail to capture the complexity of pornography use. Such an approach overlooks qualitative dimensions, including the type of content consumed (e.g., violent or realistic material), motivation, situational contexts, and experiences associated with impaired control, which are relevant features of PPU. Consequently, this limits the interpretability of the findings and hampers a deeper understanding of pornography use and PPU. Additionally, a significant portion of the reviewed studies came from Croatia and the Netherlands, highlighting a geographic bias that limits the generalizability of the findings to adolescents in different cultural contexts such as Asia. Given that pornography is a culturally influenced construct, future studies should be conducted across a broader range of countries and continents to provide a more comprehensive perspective. Finally, because several of the analyzed topics were explored in only one or several studies, further research is required to strengthen the conclusions.

Considering the limitations of the present rapid systematic review, it is important to note that this type of review involves restricted database searches (limited to PubMed and PsycINFO), language limitations (only English and Spanish), exclusion of grey literature, no evaluation of methodological quality or bias risk, and screening conducted by a single author. These constraints may have resulted in the omission of relevant studies that can contribute valuable insights.

CONCLUSION

This rapid systematic review provides a valuable overview of the existing longitudinal research on adolescent pornography use and its associated factors. While it identifies multiple associations with various psychological and behavioral outcomes, the heterogeneity of the findings combined with notable methodological limitations, particularly in the measurement and conceptualization of pornography use and PPU, limits its clinical applicability. From a psychiatric perspective, these constraints reduce their use in informing diagnosis, treatment, and prevention efforts. Overall, these findings underscore the need for additional rigorous, conceptually robust, and reproducible longitudinal studies.

Availability of Data and Material

Data sharing not applicable to this article as no datasets were generated or analyzed during the study.

Conflicts of Interest

The authors have no conflicts of interest with the content of this manuscript. Dr. Potenza discloses that he has consulted for and advised Baria-Tek and Boehringer Ingelheim; been involved in a patent application with Yale University and Novartis; received research support from the Mohegan Sun Casino and the Connecticut Council on Problem Gambling; consulted for or advised legal, non-profit, health-

care and gambling entities on issues related to impulse control, internet use and addictive behaviors; performed grant reviews; edited journals/journal sections; given academic lectures in grand rounds, CME events, and other clinical/scientific venues; and generated books or chapters for publishers of mental health texts.

Author Contributions

Conceptualization: Gemma Mestre-Bach, Marc N. Potenza. Funding acquisition: Gemma Mestre-Bach. Investigation: Gemma Mestre-Bach, Marc N. Potenza. Methodology: Gemma Mestre-Bach, Marc N. Potenza. Writing—original draft: Gemma Mestre-Bach, Marc N. Potenza. Writing—review and editing: Gemma Mestre-Bach, Marc N. Potenza.

ORCID iDs

Gemma Mestre-Bach <https://orcid.org/0000-0001-5345-0484>
 Marc N. Potenza <https://orcid.org/0000-0002-6323-1354>

Funding Statement

This study was supported by the ITEI B23-010 project (Universidad Internacional de La Rioja).

Acknowledgments

None

REFERENCES

- 1) McKee A, Byron P, Litsou K, Ingham R. An interdisciplinary definition of pornography: results from a global delphi panel. *Arch Sex Behav* 2020;49:1085-1091.
- 2) Alexandraki K, Stavropoulos V, Anderson E, Latifi MQ, Gomez R. Adolescent pornography use: a systematic literature review of research trends 2000-2017. *Curr Psychiatry Rev* 2018;14:47-58.
- 3) Gibbons I, Bernards J, Bean RA, Young B, Wolfgramm M. Addressing problematic pornography use in adolescent/young adult males: a literature review and recommendations for family therapists. *Am J Fam Ther* 2021;49:57-73.
- 4) Peter J, Valkenburg PM. Adolescents and pornography: a review of 20 years of research. *J Sex Res* 2016;53:509-531.
- 5) Pathmendra P, Raggatt M, Lim MS, Marino JL, Skinner SR. Exposure to pornography and adolescent sexual behavior: systematic review. *J Med Internet Res* 2023;25:e43116.
- 6) Koletić G. Longitudinal associations between the use of sexually explicit material and adolescents' attitudes and behaviors: a narrative review of studies. *J Adolesc* 2017;57:119-133.
- 7) Garritty C, Gartlehner G, Kamel C, King VJ, Nussbaumer-Streit B, Stevens A, et al. Cochrane rapid reviews. Interim guidance from the Cochrane Rapid Reviews Methods Group. *Cochrane Rapid Reviews Methods Group*; 2020.
- 8) van Oosten JMF, Peter J, Vandenbosch L. Adolescents' sexual media use and willingness to engage in casual sex: differential relations and underlying processes. *Hum Commun Res* 2017;43:127-147.
- 9) Matković T, Cohen N, Štulhofer A. The use of sexually explicit material and its relationship to adolescent sexual activity. *J Adolesc Health* 2018;62:563-569.
- 10) Pirrone D, Zondervan-Zwijenburg M, Reitz E, van den Eijnden RJJM, Ter Bogt TFM. Pornography use profiles and the emergence of sexual behaviors in adolescence. *Arch Sex Behav* 2022;51:1141-1156.
- 11) Hennessy M, Bleakley A, Fishbein M, Jordan A. Estimating the longitudinal association between adolescent sexual behavior and exposure to sexual media content. *J Sex Res* 2009;46:586-596.
- 12) Doornwaard SM, van den Eijnden RJ, Overbeek G, ter Bogt TF. Differential developmental profiles of adolescents using sexually explicit internet material. *J Sex Res* 2015;52:269-281.
- 13) Doornwaard SM, van den Eijnden RJ, Baams L, Vanwesenbeeck I, ter Bogt TF. Lower psychological well-being and excessive sexual interest predict symptoms of compulsive use of sexually explicit internet material among adolescent boys. *J Youth Adolesc* 2016;45:73-84.
- 14) Mubasshera H. Pornography usage during adolescence: does it lead to risky sexual behavior? *Health Econ* 2024;33:1682-1704.
- 15) Koletić G, Štulhofer A, Tomić I, Knežević Čuča J. Associations between croatian adolescents' use of sexually explicit material and risky sexual behavior: a latent growth curve modeling approach. *Int J Sex Health* 2019;31:77-91.
- 16) Milas G, Wright P, Štulhofer A. Longitudinal assessment of the association between pornography use and sexual satisfaction in adolescence. *J Sex Res* 2020;57:16-28.
- 17) Peter J, Valkenburg PM. Adolescents' exposure to sexually explicit internet material and sexual satisfaction: a longitudinal study. *Hum Commun Res* 2009;35:171-194.
- 18) Martyniuk U, Štulhofer A. A longitudinal exploration of the relationship between pornography use and sexual permissiveness in female and male adolescents. *J Adolesc* 2018;69:80-87.
- 19) Doornwaard SM, Bickham DS, Rich M, ter Bogt TF, van den Eijnden RJ. Adolescents' use of sexually explicit internet material and their sexual attitudes and behavior: parallel development and directional effects. *Dev Psychol* 2015;51:1476-1488.
- 20) Dawson K, Tafro A, Štulhofer A. Adolescent sexual aggressiveness and pornography use: a longitudinal assessment. *Aggress Behav* 2019;45:587-597.
- 21) Štulhofer A. Is male adolescents' sexual aggressiveness better explained by prior pornography use or callousness? A brief report. *Sex Abuse* 2021;33:361-373.
- 22) Kohut T, Landripet I, Štulhofer A. Testing the confluence model of the association between pornography use and male sexual aggression: a longitudinal assessment in two independent adolescent samples from croatia. *Arch Sex Behav* 2021;50:647-665.
- 23) D'Abreu LCF, Krahé B. Predicting sexual aggression in male college students in Brazil. *Psychol Men Masculinities* 2014;15:152-162.
- 24) Ybarra ML, Mitchell KJ, Hamburger M, Diener-West M, Leaf PJ. X-rated material and perpetration of sexually aggressive behavior among children and adolescents: is there a link? *Aggress Behav* 2011;37:1-18.
- 25) Landripet I, Buško V, Štulhofer A. Testing the content progression thesis: a longitudinal assessment of pornography use and preference for coercive and violent content among male adolescents. *Soc Sci Res* 2019;81:32-41.
- 26) Waterman EA, Wesche R, Morris G, Edwards KM, Banyard VL. Prospective associations between pornography viewing and sexual aggression among adolescents. *J Res Adolesc* 2022;32:1612-1625.
- 27) Martel S, Bergeron S, Böthe B, Vaillancourt-Morel MP, Hébert M, Dion J. Cross-sectional and longitudinal associations between pornography use and dating violence victimization: are there risks for teenagers? *J Interpers Violence* 2024 Dec 27 [Epub]. <https://doi.org/10.1177/08862605241307228>.
- 28) Vangeel L, Eggermont S, Vandenbosch L. Does adolescent media use predict sexual stereotypes in adolescence and emerging adulthood? Associations with music television and online pornography exposure. *Arch Sex Behav* 2020;49:1147-1161.
- 29) Beyens I, Vandenbosch L, Eggermont S. Early adolescent boys' exposure to internet pornography: relationships to pubertal timing, sensation seeking, and academic performance. *J Early Adolesc* 2015;35:1045-1068.
- 30) Šević S, Mehulić J, Štulhofer A. Is pornography a risk for adolescent academic achievement? Findings from two longitudinal studies of male adolescents. *Eur J Dev Psychol* 2020;17:275-292.

- 31) **Böthe B, Vaillancourt-Morel MP, Dion J, Paquette MM, Massé-Pfister M, Tóth-Király I, et al.** A longitudinal study of adolescents' pornography use frequency, motivations, and problematic use before and during the COVID-19 pandemic. *Arch Sex Behav* 2022;51:139-156.
- 32) **Maes C, Vandenbosch L.** Adolescents' use of sexually explicit internet material over the course of 2019-2020 in the context of the COVID-19 pandemic: a three-wave panel study. *Arch Sex Behav* 2022;51:105-121.
- 33) **Kohut T, Štulhofer A.** The role of religiosity in adolescents' compulsive pornography use: a longitudinal assessment. *J Sex Marital Ther* 2018;44:759-775.
- 34) **Rasmussen K, Bierman A.** How does religious attendance shape trajectories of pornography use across adolescence? *J Adolesc* 2016;49:191-203.
- 35) **Rousseau A, Böthe B, Štulhofer A.** Theoretical antecedents of male adolescents' problematic pornography use: a longitudinal assessment. *J Sex Res* 2021;58:331-341.
- 36) **Cranney S, Koletić G, Štulhofer A.** Varieties of religious and pornographic experience: latent growth in adolescents' religiosity and pornography use. *Int J Psychol Relig* 2018;28:174-186.
- 37) **Štulhofer A, Tafro A, Kohut T.** The dynamics of adolescents' pornography use and psychological well-being: a six-wave latent growth and latent class modeling approach. *Eur Child Adolesc Psychiatry* 2019;28:1567-1579.
- 38) **Ma CMS.** Relationships between exposure to online pornography, psychological well-being and sexual permissiveness among Hong Kong Chinese adolescents: a three-wave longitudinal study. *Appl Res Qual Life* 2019;14:423-439.
- 39) **Peter J, Valkenburg PM.** The use of sexually explicit internet material and its antecedents: a longitudinal comparison of adolescents and adults. *Arch Sex Behav* 2011;40:1015-1025.
- 40) **Mattebo M, Tydén T, Häggström-Nordin E, Nilsson KW, Larsson M.** Pornography consumption and psychosomatic and depressive symptoms among Swedish adolescents: a longitudinal study. *Ups J Med Sci* 2018;123:237-246.
- 41) **Alexandraki K, Stavropoulos V, Burleigh TL, King DL, Griffiths MD.** Internet pornography viewing preference as a risk factor for adolescent internet addiction: the moderating role of classroom personality factors. *J Behav Addict* 2018;7:423-432.
- 42) **Daneback K, Ševčíková A, Ježek S.** [Exposure to online sexual materials in adolescence and desensitization to sexual content]. *Sexologies* 2018;27:155-161. Spanish
- 43) **Vandenbosch L.** Antecedents of adolescents' exposure to different types of sexually explicit internet material: a longitudinal study. *Comput Human Behav* 2015;50:439-448.
- 44) **Ma CM, Shek DT.** Consumption of pornographic materials in early adolescents in Hong Kong. *J Pediatr Adolesc Gynecol* 2013;26:S18-S25.
- 45) **Wright PJ, Štulhofer A.** Adolescent pornography use and the dynamics of perceived pornography realism: does seeing more make it more realistic? *Comput Human Behav* 2019;95:37-47.
- 46) **Paquette MM, Böthe B, Dion J, Girouard A, Bergeron S.** Can I love my body even if it doesn't look like the porn stars'? Longitudinal associations between pornography use frequency and body appreciation in a diverse sample of adolescents. *Arch Sex Behav* 2023;52:3471-3489.
- 47) **van Oosten JMF, Vandenbosch L.** Predicting the willingness to engage in non-consensual forwarding of sexts: the role of pornography and instrumental notions of sex. *Arch Sex Behav* 2020;49:1121-1132.
- 48) **Koletić G, Cohen N, Štulhofer A, Kohut T.** Does asking adolescents about pornography make them use it? A test of the question-behavior effect. *J Sex Res* 2019;56:137-141.
- 49) **van Oosten JM.** Sexually explicit internet material and adolescents' sexual uncertainty: the role of disposition-content congruency. *Arch Sex Behav* 2016;45:1011-1022.
- 50) **Shek DTL, Xie Q, Ma CMS.** Adolescent consumption of pornographic materials: prevalence and psychosocial correlates based on a longitudinal study. In: Lee T, Shek D, Sun R, editors. *Student well-being in Chinese adolescents in Hong Kong*. Singapore: Springer; 2015. p.309-324.
- 51) **Shek DTL, Ma CMS.** A six-year longitudinal study of consumption of pornographic materials in Chinese adolescents in Hong Kong. *J Pediatr Adolesc Gynecol* 2016;29:S12-S21.
- 52) **Peter J, Valkenburg PM.** Adolescents' exposure to sexually explicit internet material and sexual preoccupation: a three-wave panel study. *Media Psychol* 2008;11:207-234.
- 53) **Peter J, Valkenburg PM.** Processes underlying the effects of adolescents' use of sexually explicit internet material: the role of perceived realism. *Commun Res* 2010;37:375-399.
- 54) **Peter J, Valkenburg PM.** The influence of sexually explicit Internet material and peers on stereotypical beliefs about women's sexual roles: similarities and differences between adolescents and adults. *Cyberpsychol Behav Soc Netw* 2011;14:511-517.
- 55) **Peter J, Valkenburg PM.** Adolescents' exposure to sexually explicit Internet material, sexual uncertainty, and attitudes toward uncommitted sexual exploration: is there a link? *Commun Res* 2008;35:579-601.